



## **E-TRAINING FOR THE WORKPLACE**

Sonia Jurich  
Kurt D. Moses  
Raymond L. Vigil  
John Y. Jones

- > **Workplace Training in the New Economy**
- > **Applications of E-Training**
  - Axa—The French Solution
  - Carrefour—A Brazilian Experience
  - Cisco Learning Network
  - Lucent Technologies
  - Corporate Universities

## WORKPLACE TRAINING IN THE NEW ECONOMY<sup>1</sup>

Training within the workplace has become a priority for a majority of firms operating in modern and increasingly global economies, and for countries seeking accelerated development. But training is costly.

One of the biggest factors in estimating training costs is whether the income and living expenses of those being trained is factored in as a cost. For example, 90% of all corporate and government training in the United States occurs on paid time. The cost of a senior executive attending training, at a location different from his or her normal workplace, includes not only the direct outlay for the training activity (speakers, computers, rental site, and other costs) but the cost of attendance as well. This covers the trainee's salary, transportation costs, living expenses, out-of-pocket costs, and, in some cases, business that was not conducted or accomplished, because the person was off being trained. In many instances—particularly for international training—the cost of attendance far exceeds the direct cost of training. The higher the salaries of the persons involved and the more precious their time is, the costlier the training. And yet, most firms in modern economies continue to place an extremely high priority on training. Several factors are driving this type of priority setting:

- Modern economies tend to move from high-volume activities to high-value activities. High-value activities usually involve higher-skilled individuals.<sup>2</sup>
- Speed and agility are keys to maintaining high value. This requires communication and quick understanding—meaning additional training and people who know how to learn.
- Modern firms need a web of relationships to produce what they do. For example, the modern automobile sold in the United States may have parts from 25 or 30 countries, all brought together to create one automobile. In emerging economies, such relationship webs are also important, because the various factors of production are very dispersed. A classic example is flowers produced in Kenya for sale in Amsterdam. The entire activity, including transportation is arranged via the Internet.

---

This chapter is extracted from articles by **Sonia Jurich, M.D.**, Senior Associate at Knowledge Enterprise, Inc.; **Kurt D. Moses, M.B.A.**, Vice President, Academy for Educational Development; **Raymond L. Vigil, Ph.D.**, former Chief Operating Officer for Learning at Lucent Technologies; and **John Y. Jones**, User Services Coordinator, National Clearinghouse for Comprehensive School Reform at The George Washington University. The articles are cited in the endnotes.

In addition, the focus on Web- and Internet-based ways of operating firms has created a new set of needs. Two innovations (used in both service and product economies) have driven much of the recent dialogue on these matters:

- Enterprise Resource Planning (ERP) involves integrating the "back office" of a firm so that one can provide ordered goods rapidly and accomplish all the needed inventory, distribution, quality control, financial transactions, and status updating easily and rapidly. ERP involves reengineering normally separate functions within enterprises so that services and goods can be produced and processed more consistently and rapidly.
- Customer Relationship Management (CRM) involves recording all interactions with a customer/client to track buying patterns, anticipate new purchases or interests, determine changes in lifestyle, and respond to preferences in ordering. CRM is becoming increasingly powerful as multiple firms attempt to become the preferred suppliers of goods and services—not only to individuals but to other businesses as well.

Attention to this level of service and speed requires an upgraded workforce—which in the past may have been used to do one job or several related jobs on a repetitive, moderately changing basis. In more modern economies, change becomes much more the theme of an economic operation. It then comes as no surprise that the key functions that allow firms to operate in the above manner also need to change. Training in a modern economy needs to have the following characteristics:

- highly focused on needed skills in the context of the work enterprise;
- provided at the right time in the cycle of work and travel for an employee;
- structured to respond to personnel who begin at different points in the learning cycle—for example, some people have more mathematics knowledge than others, some need more drill and practice to understand an issue, others need more writing practice; and
- easily modified and quickly mounted—training that can be reconfigured and delivered rapidly.

Traditional training and education, delivered most often in a face-to-face mode, has had trouble adjusting to the above pressures. While face-to-face training can be modified quickly (with good instructors), such training may have a limited audience or access, and cost pressures can become intense, particularly for senior personnel. E-training offers an opportunity to respond more cost-effectively to the pressures noted above. In most instances, as long as e-training can provide

equivalent or better outcomes (retention of knowledge, demonstrably better skills, or higher levels of problem solving) at the same or lower cost than traditional training, then the convenience of e-training and its ability to reach a wider audience often will win out.

## APPLICATIONS OF E-TRAINING

### Axa—The French Solution<sup>3</sup>

The growth of e-training in France has been slow, compared to the United States. While e-training accounts for 60% of the expenses of corporate training in the United States, in France it accounts for only 11%. Surveys of French companies indicate that face-to-face is still the preferred training model, and that many human resources employees are not clear about e-learning's potential as a training tool.<sup>4</sup> Axa is among the exceptions.

Axa is a multinational insurance group with close to 100,000 employees in 25 countries. Providing training to this large and scattered workforce was becoming increasingly complex and expensive. Axa's Human Resources Department in France decided to use its intranet connection to develop a distance learning program that could ensure fast distribution to a large audience. A modular structure was adopted to facilitate frequent but cost-effective updates of the content material. The company entered into a partnership with IBM for the technical aspects of the training and had a number of partners for production of educational material.

Before starting the project, in 1997, the Human Resources Department organized a five-day retreat to ensure the managers' support for the program. Then, the Department met with the employees to discuss the new training and orient them on how to use the intranet for training purposes. Only after ensuring that managers and employees were ready to accept and use distance learning strategies, the Department began to introduce e-training gradually into the employees' traditional training schedule. Training programs vary between 40 and 400 hours per employee, depending on the topic. The employee can go through the training individually or with the help of a tutor. Tutors are experts in the content area who volunteer to work with the distance education experts. They can be reached by mail, telephone, or face-to-face contact. Piloted in one of the French branches, e-training is now available to Axa's employees worldwide.

The pilot stage provided good results and some important lessons for companies that are thinking of developing their own training:

- Developing training materials for multinational workforces is a major challenge, since learning preferences vary across countries. For instance, English speakers preferred lessons that began with anecdotes and moved from the particular to the general, while the French preferred to look at the general before going into the particular.
- It is important to have a place reserved for training and someone to encourage and prod trainees; few individuals have the self-discipline to search for training independently.
- Supervisors' support is essential for the success of any training project.

### Carrefour—A Brazilian Experience

Carrefour is probably the largest wholesale chain in Brazil, with almost 50,000 employees. The chain, founded in France in 1963, has a long tradition of employee training. In the late 1980s, Carrefour founded one of the world's first "corporate universities," the Institute Marcel Fournier, and used video-conferencing for employee training. Currently, the chain has three "corporate universities," one of which is in São Paulo, Brazil: *Instituto de Formação Carrefour* (Carrefour Institute for Professional Development).

The reasons Carrefour moved into e-training are similar to Axa's. As the chain spread throughout the country, the distance between stores and training centers escalated costs. E-training was the strategy of choice because it (1) provides economies with traveling costs, (2) reduces the amount of time employees are away from work, and (3) avoids the complex logistics of planning and implementing training for large numbers of individuals coming from many different places. In addition, it is easier and less expensive to update e-learning material than to produce printed material. The company also perceived a need to maintain a technological lead. According to the Institute's training director, "The majority of large businesses in the world are investing in online training . . . and some are well advanced in this area. We could not be left behind."

Carrefour universities offer a variety of training, not only to employees, but also to clients and vendors. The Brazilian Institute provides 114 courses in different areas that include informatics, marketing, management, etc. The programs have different platforms, including multimedia, video, DVD, television broadcast via satellite, and intranet. The training programs vary in length from four hours to 15 days. Some courses are mandatory while others are elective, and participation depends on the interests of the employee and his or her supervisor. Courses can also be provided on site, and the Institute has many training rooms in addition to a large

auditorium with simultaneous translation capabilities. At this time, the Institute is serving only employees, but training programs for clients and vendors are programmed to begin in late 2002. Plans for expansion also include courses on the Internet and a mix of online and face-to-face strategies. In less than one year of functioning, the Institute trained about 3,000 employees.

### Cisco Learning Network

Cisco Systems is one of the largest network companies in the world, with annual revenues of over US\$20 billion. Headquartered in the United States, the company has 225 sales and support offices in 75 countries. For years, its training programs were managed independently at each different unit, resulting in redundant and inconsistent programming. To streamline, expedite, and improve the quality of the training programs, the company developed the Cisco Learning Network (CLN).

CLN training is developed using multimedia technologies and stored in a centralized database. The employee selects either a full curriculum or individual modules and takes an assessment test. The test results guide the adaptation of the module to respond to the employee's specific needs. The employee is evaluated at different intervals to gauge the effectiveness of the program, and results are stored in a personal training file at the Human Resources database.

The programs can be provided in two ways: (1) in scheduled delivery, at a fixed time and place, or (2) on-demand, for individuals who have particular needs. Scheduled delivery uses three platforms: multicasts (videos that are sent over the network to desktops), virtual classrooms, and remote laboratories. On-demand training uses Web-based on-demand content, CD-ROMs, and remote labs. Laboratories, used to supplement complex topics, include simulations that provide virtual access to equipment and techniques too costly to be available for every learner. It was observed that CLN courses reduced the time sales employees spent away from their customers by up to 40%.

Cisco's training expertise has outgrown the corporation and the company is now a major developer of training solutions. The Cisco Networking Academy Program prepares high school and college students in how to design, build, and maintain computer networks. There are more than 6,000 academies spread throughout the 50 American states. The Academies reflect partnerships between the company and private or governmental organizations, including public schools. Cisco also provides online seminars and Career Certification programs. The certification program has grown from 6,000 students per year to 100,000 and is offered online

or through more than 130 sites and 750 certified instructors worldwide. Some of the courses are offered by Cisco Learning Partners, which are organizations authorized to deliver Cisco-developed learning content. According to Cisco management, in the current economy, the key to gaining a competitive advantage is the ability to rapidly disseminate information, education, and training.

### Lucent Technologies<sup>5</sup>

Lucent Technologies is a spin-off of Bell Telephone Laboratories, which has been at the center of major innovations in communications technology for more than a century. Launched in 1996, Lucent has focused on research, production, and services in optical, data, and wireless networking; optic-electronics; communications semiconductors; communications software; and Web-based enterprise solutions and professional network design and consulting services.

The Global Learning Solutions (GLS) Learning Architecture, developed by Lucent Technologies' New Enterprise Networks Group, combines the Internet, voice network, and small-dish digital video technology to expand the outreach power of traditional training without losing the human interaction aspect. It uses independent, self-directed learning events (asynchronous strategy) with a virtual classroom in which the instructor and most of the learners are at locations distant from each other (synchronous strategy). A typical course operates much like a college class. Learners meet for one to two hours for the live, facilitated part of the course and work on their own until current assignments, exercises, and readings are complete. Often subsequent live sessions are scheduled with the instructor to follow up on assignments and discuss new material. The extent to which this happens depends on the instructional design. During these interactive sessions, the students can present results to the class, have questions answered, pose new questions, participate in group discussions, and receive their next assignment. Between sessions, the learner still has access to the instructor and the other learners through chat rooms, threaded news groups, e-mail, and instructor Web "office hours."

Using the GLS Learning Architecture, Lucent has developed a training approach to reach a large workforce dispersed across the world. Its training branch, LucentVision Interactive (LVI), was launched in 1999 initially to train more than 9,000 direct and indirect sales personnel. LVI was able to deliver over 150 hours of training per month with similar or better results than those obtained by traditional, face-to-face strategies, while reducing the number of contact hours by 35%. LVI is now expanding into a "Sales and Marketing University" with an audience of more than

22,000 direct and indirect sales, technical sales support, marketing, and product marketing personnel. A total of US\$3.4 million in capital investment and US\$2 million in expense budget have been allocated to expand uplink portals in three U.S. cities and Singapore, with another 120 downlinks worldwide.

### Corporate Universities<sup>6</sup>

Jeanne Meister, a leading expert in corporate education, defines a corporate university as "the strategic umbrella for developing and educating employees, customers, and suppliers in order to meet an organization's business strategies." Corporate training has three basic objectives: to develop corporate citizenship, provide a contextual framework to the company, and build core workplace competencies among employees.

Investment in training and education among large corporations is not new. In the beginning of the 20<sup>th</sup> century, General Motors had already developed its own educational division: the General Motors Engineering and Management Institute (GMI). Other companies soon followed. Most of this initial corporate training was open only to the company's employees, in particular the managerial staff. They were places to groom future managers. In 1961, the American fast-food chain, McDonald's, opened "Hamburger University." As the more traditional education and training division, the University aimed at instilling corporate values and teaching basic business skills. However, it instituted a major innovation—a concern with involving all those connected with the fast-food chain, either directly (McDonald's employees) or indirectly (franchise owners and their employees). Hamburger University, now with branches in England, Germany, Japan, and Australia, started a trend that continues to grow.

While the traditional means for delivering a corporate education has been the classroom, many companies are embracing the Internet as a medium of instruction because it offers many advantages over face-to-face teaching. A Web-based system of instruction allows centralized coordination but dispersed learning, can be adapted to each individual's learning needs, can provide numerous resources without taking space on a computer's hard drive, and is more convenient to incorporate into the workday than traditional classroom instruction.<sup>8</sup> It also usually cuts costs, often dramatically, when personnel would otherwise have to travel to another city for the instruction.

It is not only big companies that can benefit from corporate universities. Verifone, with about 2,500 employees in regional offices in the Americas, Africa, Asia, and

Australia, operates its own university. Verifone University created its curriculum using in-house experts when possible and contractors when necessary. They made all course information available on each employee's computer or at office-based learning centers, and are moving toward making all education available on company Websites. Verifone encourages employees to take charge of their own education, going so far as to provide subsidies for employees' home computer purchases.

Estimates for developing, implementing, and maintaining corporate universities vary widely. Large U.S. corporations are estimated to spend an average of US\$10-12 million, or about 2.2% of the payroll, on their universities.<sup>9</sup> Such figures are often unrealistically high for smaller companies, but there are several ways in which these high costs can be reduced.

Two professional associations may be of assistance to those establishing corporate universities: the American Society for Training and Development is a professional association of corporate education officers and consultants, and the European Consortium for the Learning Organisation is a network of business and academic professionals that collaborates on learning. The *Corporate University Review* is a journal available online at <http://www.trainingworks.org/pdf/corpuniversities.pdf>. Several Websites now index e-learning firms, such as L-Guide; the Clearinghouse for Training, Education, and Development; and EdSurf. For-profit firms also have sprung up to consult and provide services in this new field. These include the Corporate University Xchange, The Corporate University, The Virtual Corporate University Extension, Woohoo Inc., and McGraw-Hill.

### ENDNOTES

- <sup>1</sup> Excerpts from Moses, K.D. (May/June 2001). The Role of E-learning in Training and Development. *TechKnowLogia*. Available at: <http://www.techknowlogia.org>.
- <sup>2</sup> Reich, R. (1991). *The Work of Nations: Preparing Ourselves for 21st Century Capitalism*. New York: A.A. Knopf, cited in Moses, op. cit.
- <sup>3</sup> The descriptions of e-training applications in AXA, Carrefour, and Cisco are taken from Jurich, S. (May/June 2001). Corporate Universities: Three Examples from across the World. *TechKnowLogia*. Available at: <http://www.techknowlogia.org>.
- <sup>4</sup> Ghys, S., *E-learning, les entreprises françaises restent à convaincre*. In Jurich, op. cit.
- <sup>5</sup> This description is taken from Vigil, R.L. (July/August 2000). Getting the Most out of Online Training: Integrating the Missing Ingredients. *TechKnowLogia*, 2(4): 14-19. Available at: <http://www.techknowlogia.org>.
- <sup>6</sup> This section includes excerpts from Jones, J.Y. (May/June 2001). Business, Corporate Universities and E-Learning. *TechKnowLogia*. Available at: <http://www.techknowlogia.org>.
- <sup>7</sup> Meister, J.C. (1998) Corporate Universities: Lessons in Building a World-Class Workforce, cited in Jones, op. cit.
- <sup>8</sup> Chase, N. (1998) Lessons from the Corporate University. *Quality Magazine*. Available at: <http://www.qualitymag.com>.
- <sup>9</sup> Dubin, C.H. (1999). *The Mountain Comes to Mohammed*, cited in Jones, op. cit.