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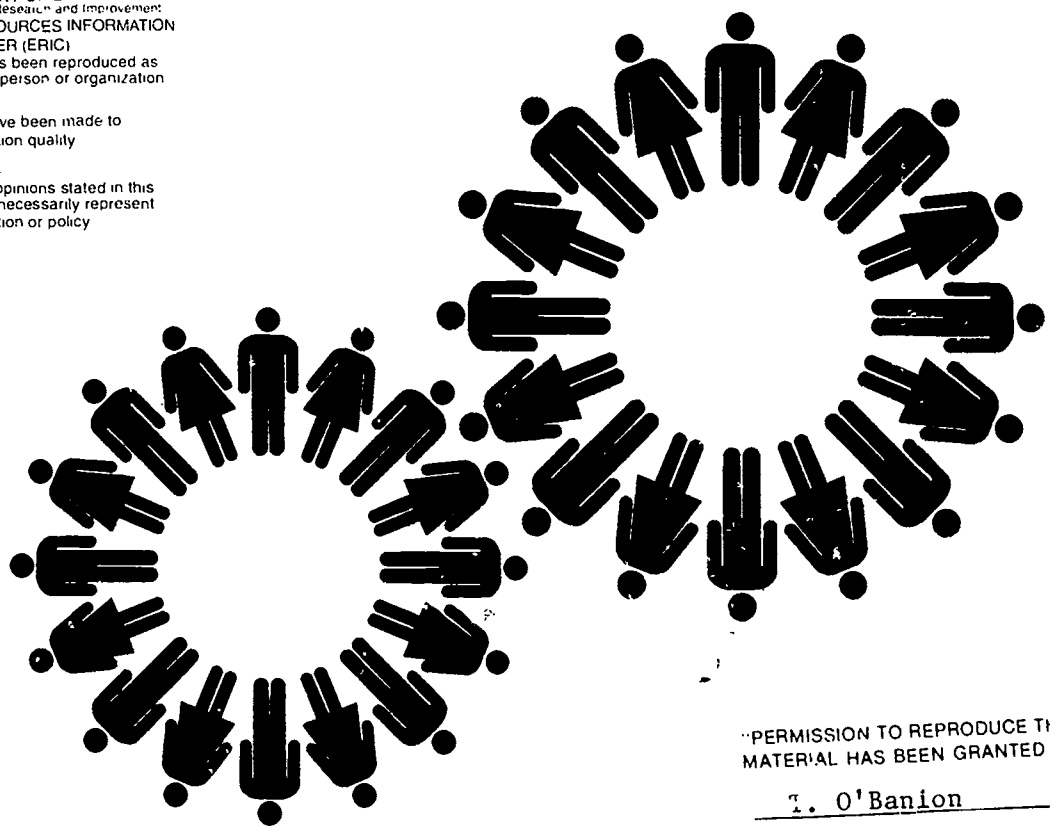
ABSTRACT

Designed to illustrate exemplary strategies used by community colleges to meet the needs of corporate partners and which other colleges may wish to model, this monograph provides descriptions of partnerships at 14 community colleges written by the practitioners involved. Each narrative discusses how the partnerships were formed; their structure, organization, and funding; and lessons learned in the process. The following partnerships are featured: (1) Central Piedmont Community College (Virginia) and Okuma America; (2) Cuyahoga Community College (Ohio) and Ford Motor Company; (3) Dallas County Community College District (Texas) and the National Corporate Supplier Training Network; (4) Delta College (Michigan) and General Motors Corporation; (5) Foothill-DeAnza Community College District (California) and Hewlett-Packard; (6) Humber College (Toronto) and the Canadian Plastics Training Centre; (7) Johnson County Community College (Kansas) and Burlington Northern Railroad; (8) Kirkwood Community College (Iowa) and AEGON USA; (9) Lane Community College (Oregon) and Symantec Corporation; (10) Monroe Community College (New York) and Eastman Kodak Company; (11) Moraine Valley Community College (Illinois) and Autodesk, Inc.; (12) South Seattle Community College (Washington) and the Boeing Company; (13) Sinclair Community College (Ohio) and the Reynolds & Reynolds Company; and (14) St. Louis Community College (Missouri) and McDonnell Douglas Corporation. (TGI)

COMMON GROUND

Exemplary Community College and Corporate Partnerships



League for Innovation in the Community College
National Association of Manufacturers

COMMON GROUND

Exemplary Community College and Corporate Partnerships

Larry Johnson, Editor

A joint publication of
The League for Innovation in the Community College
and
The National Association of Manufacturers

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League for Innovation in the Community College

The League for Innovation in the Community College is a nonprofit educational consortium of resourceful community colleges organized to stimulate experimentation and innovation in all areas of community college development. Founded in 1968, the League seeks to serve as a catalyst, project incubator, and experimental laboratory for community colleges throughout the United States and Canada. The League is committed to sharing the results of its efforts with all community colleges. Its programs and conferences are open to staff from all colleges, and its publications are disseminated to every community college in the United States and Canada. The League regularly includes community colleges throughout North America in its projects and invites collaboration with all organizations committed to improving community college education.

The National Association of Manufacturers

The National Association of Manufacturers (NAM) is the only association advancing the vital interests of all segments of manufacturing for national policy makers. As the largest industrial trade association, the NAM represents more than 13,500 member companies and their subsidiaries, accounting for 85 percent of U.S. manufacturing output and jobs. The NAM's primary mission is to advocate policies that promote American economic growth and competitiveness. A top priority of the association is to support high levels of training and education for its member companies and promote high-performance workplaces. The NAM celebrated its centennial in 1995.

FOREWORD

In today's global economy, the knowledge worker is essential to U.S. competitiveness. From the factory floor to the boardroom, there is a new sense of urgency to have a skilled work force that responds to today's challenge for quality goods. Cutting-edge technology, customization, and new manufacturing processes have created even more pressure to create learning opportunities that continuously upgrade the knowledge of all workers.

The National Association of Manufacturers believes that the competitive advantage of U.S. manufacturers lies in the application of technological advances in combination with an increasingly skilled and adaptable work force. To that end, U.S. manufacturers are spending over $60 billion in educating and training the nation's work force. As more and more manufacturers adopt the principles of high-performance workplaces, that amount is increasingly being focused on front-line workers.

To facilitate this process, a growing number of manufacturers—both large and small—are turning to their local community colleges for help. Often, in cooperation with local employers' groups, community colleges have responded with vigor, designing customized workforce development programs and highly focused course work for a range of employee needs. The following "success stories" speak for themselves, telling the tale of a growing partnership between higher education and the business community. Many of these are examples of large company/community college alliances—but a surprising number of small and medium-sized companies, often suppliers to larger firms, are realizing that they, too, must have the kind of worker that can deliver to their customers the highest quality product. These smaller companies, whose needs are significant but whose resources are thin, are particularly eager to work with their local community colleges.

We hope you enjoy and learn from the information in this monograph. Clearly, it is just a small example of the "common ground" that manufacturers have with the vast and unique system of community colleges. If we can create out of these alliances a foundation for lifelong learning, we will be successful in meeting the challenge of the global economy.

Jerry Jasinowski, President
The National Association of Manufacturers

INTRODUCTION

The League for Innovation's interest in the corporate relationships of community colleges can be traced to the earliest years and activities of the organization, but its current focus stems from a seminal meeting held in 1990, when the corporate services representatives of 18 League colleges met to discuss common interests and needs. It was immediately evident that much could be gained by sharing experiences, materials, and other resources, and the Business and Industry Services Network (BISNET) was formed to facilitate the exchange of knowledge and information between the member institutions. Soon it became clear that more formal mechanisms were needed to coordinate information, facilitate communication, disseminate information, and assist in organizing collaborative projects. The idea of an alliance of community colleges with business and industry arose, and with encouragement from several corporate leaders, the League sponsored a Community College Business and Industry Forum in Dallas, Texas, in early 1992. At this meeting, attended by representatives of 23 corporations, the League was urged to develop a national effort to coordinate information, activities, and collaborative projects that would assist community colleges in serving the training needs of business, industry, government, and labor.

At about the same time, it became clear that much more information was needed about what community colleges were doing in the corporate arena and in 1992, the League embarked on a comprehensive national study that investigated the scope of community colleges' involvement in workforce training. More than 725 colleges responded to the survey, which revealed that 96 percent of community colleges provided workforce training for employees of business, industry, government, and labor. As a result of these findings, and with the expressed support of corporate partners such as the Student Loan Marketing Association, National Computer Systems Corporation, IBM, Eastman Kodak, and Xerox, as well as community college organizations such as the American Association of Community Colleges, the Continuous Quality Improvement Network, ED>Net, the Coalition of Advanced Technology Centers, and others, the League advanced an ambitious ten-point agenda to promote the expansion and improvement of community college workforce development programs. This agenda, expressed in a white paper entitled *The Workforce Training Imperative: Meeting the Training Needs of the Nation*, formed the core of what has become a major strategic focus of the League, the Workforce Initiative.

The Workforce Initiative, now in its fourth year, serves as an umbrella for a wide-ranging set of projects, activities, and an annual national conference designed to help community colleges understand and address the tremendous issues involved in ensuring that the nation's work force is competitive in the global marketplace. This monograph, the second in the series devoted to workforce issues and corporate relationships with community colleges, identifies and describes fourteen exemplary community college/ corporate partnerships. Each of these relationships began as simple fee-for-service workforce training contracts, but all have evolved into much more comprehensive, long-term relationships.

The colleges described in these pages have distinguished themselves on many fronts in the workforce training arena. The purpose of this monograph, however, is to illustrate the ways the colleges have met the needs of specific partners and to describe practices other colleges may wish to model. Each college was asked to contribute a chapter detailing how these relationships were formed, how they are structured, organized, and funded, and what has been learned in the process. The stories of these partnerships paint an enlightening picture of the quick responsiveness of the colleges, their flexibility, and their willingness to adapt to changing circumstances.

In each case, the programs go beyond the typical workforce training that virtually all community colleges offer; the colleges have built close relationships by discovering the common ground they have with their corporate partners and building a sense of shared purpose and community. In so doing, enormous benefits have accrued to both sides, allowing the partnerships to grow and prosper in unforeseen ways as they adapt to the needs of a changing workplace.

The long-term partnership between Foothill-DeAnza Community College District and the Hewlett-Packard Corporation, for example, has paid large dividends for both organizations since the college began offering courses at fourteen Hewlett-Packard sites in the 1970s. Over the more than 20 years the two have been working together, Hewlett-Packard has repeatedly donated funds and equipment, and made major contributions that allowed for the development of three joint-use athletic fields. Hewlett-Packard employees are important members of the college community, serving as both faculty and students; the college, for its part, is a valued source for high-technology courses and training.

St. Louis Community College enjoys a similar relationship with one of its long-standing partners, the McDonnell Douglas Corporation. Over the more than ten years of their relationship, McDonnell Douglas has looked to St. Louis Community College to help it through times of enormous expansion—and wrenching cutbacks. In the process, the partnership has adapted to changing needs and

weathered all of those storms, providing training to over 8,500 employees and aiding in the creation of more than 3,000 new jobs.

The National Corporate Supplier Training Network is a unique national partnership between leading manufacturers and six outstanding community colleges, including the Dallas County Community College District and Monroe Community College. In this innovative and collaborative partnership, leading organizations such as Eastman Kodak, Sematech, Texaco, and Motorola have taken an active role in designing curricula focused on total quality approaches to production and manufacturing and have devised a certification program to qualify their suppliers in these techniques.

The partnership between Delta College and General Motors Corporation has evolved into an international activity, the Automotive Service Education Program (ASEP). This large-scale training effort is designed to keep GM employees and dealerships current in the latest automotive technologies and takes place in several states and foreign countries. The relationship between Sinclair and Reynolds+Reynolds Company has also outgrown the borders of their community, as Sinclair has helped the company expand its network of management training to community colleges across the country.

With leadership and support from business, labor, government, and education, the state of Washington embarked on an ambitious project to ensure the viability of the state's manufacturing base. Boeing Company and South Seattle Community College were major players in the effort, which began with the comprehensive identification of core manufacturing skills and competencies and resulted in a manufacturing technology core curriculum that links high school and community college programs.

In an effort of similar scope, the partnership that founded and sustains the Canadian Plastics Training Centre also unites industry, labor, government, and education, bringing these sectors together in a comprehensive effort to upgrade the skills of a key Ontario industry. Located at Humber College of Applied Arts and Technology in Toronto, the Centre provided training to over 50 plastics companies in its first two years.

When Symantec began looking for a relocation site, Eugene, Oregon, was among 19 cities under review. The key factor that made the difference in Symantec's eventual decision to choose Eugene was the tremendous responsiveness of Lane Community College to the training needs of the company. Within eight weeks of the company's decision to move to Eugene, Lane was offering customized training to the future employees of Symantec.

Autodesk, Inc., the world's leading developer of design and drafting software, teamed up with Moraine Valley Community College to create an Authorized AutoCAD Training Center to facilitate the transfer of Autodesk technologies to new and existing users and resellers. In the process, Moraine Valley has been able to remain at the leading edge of drafting and design technology. Through contributions of software, hardware, and instructor training, Autodesk has ensured that the center can continue to provide up-to-date instruction to both credit and noncredit students—and that its customers and resellers have access to the latest in AutoCAD technology.

Cuyahoga Community College joined with Ford Motor Company and the United Auto Workers to create the Walton Hills UAW-Ford Education Center within the Walton Hills Stamping Plant. This center, open to employees and their families, has made a significant contribution to Ford's efforts to involve its employees in improving production processes and to the community at large.

In testament to their mutual long-term commitments, several colleges and their partners literally have found common ground—and have raised new buildings on it. With the support of local government, Johnson County Community College teamed up with the Burlington Northern Railroad in a series of training programs and activities that have resulted in the creation of the National Academy of Railroad Sciences. Housed in a joint-use facility built by Burlington Northern on the JCCC campus, the Academy features state-of-the-art railroad simulators and can support instruction in all aspects of railroading. Central Piedmont Community College and Okuma America, a leading manufacturer of computer numeric controls, joined together to create the CPCC Okuma Technology Institute. This multiple-use facility, constructed by Okuma on company property but offering classes open to the community, is used for educational, demonstration, and sales purposes.

When AEGON, an international insurance company, began its search for a location for its North American corporate data center, Kirkwood Community College saw the opportunity for synergy with a long-time customer. AEGON now operates its North American data operations out of a joint-use facility built by AEGON on the Kirkwood campus. The expanded partnership that emerged is a marvel of collaboration in which facilities, technology, and resources are extensively shared between the two entities.

Each of the following chapters is a success story. Each describes how a college is working hand-in-hand with key corporate citizens and others to make a lasting difference in its community. As community colleges across the continent strive to meet the enormous need for workforce training and development, these remarkable relationships demonstrate that our colleges are indeed up to the task.

Larry Johnson, Associate Director
League for Innovation in the Community College

Chapter 1

Central Piedmont Community College and Okuma America

Sherrie Kantor, Rick Kipp, and P. Anthony Zeiss

Central Piedmont Community College (CPCC) was established in 1963 with a special focus on workforce development. Its mission statement included an emphasis on providing academically, financially, and geographically accessible education and training. The Charlotte, North Carolina, college was destined to become the flagship among the state's 59 community colleges, leading the transition from an agricultural to a manufacturing-based economy. From the beginning and through the seventies and eighties, CPCC fanned the innovative spirit of its faculty and staff by encouraging the integration of their educational expertise with the industrial expertise of the area's employers. The growth of these partnerships with business and industry was a consequence of the college's mission to educate students responsibly and effectively.

The college's focus on workforce development has paid huge dividends for its countywide service area and beyond. Charlotte (and surrounding Mecklenburg County) has become the third largest financial center in the United States, and the region is recognized as one of the fastest growing areas in the country. In 1993 and 1994, several national business magazines cited the area as being the best place to start a business, and Charlotte has recently been named as the best city in the nation for foreign business start-ups. The college consistently contributes to the favorable business climate by providing effective and reliable workers in a variety of manufacturing and service fields.

A comprehensive strategic master planning process was developed by the college during a 16-month period beginning in 1993. The college's governing board was interested in reassessing the mission of the college to ensure that the college was responding to the needs of business and industry. The master planning process involved comprehensive studies of community, student, and business needs and included the development of 45 action steps. With the information gained through the process, the governing board reassessed its role in the community and resolved to renew the original mission of the college by establishing a clear vision statement for the institution: "CPCC Intends to Become the Nation's Leader in Workforce Development." The college then articulated its renewed vision with the North Carolina Department of Community Colleges' new focus on workforce development, and with the Governor's emphasis on workforce preparedness. As a result of these efforts, CPCC interprets the term "workforce development" in its broad sense to include vocations in the arts, sciences, humanities, and the trades and technologies.

The college has embraced a set of workforce development goals which will help it to begin leading the way in workforce development on a larger scale. For instance, approval of a $35 million capital construction bond referendum, the largest in the school's history, was recently gained from the county commission. These construction bonds will allow the college to establish a multicampus system to better serve its students, those who employ them, and the community at large. CPCC currently serves 61,000 different students each year and it has outgrown its physical capacity. Further, the college is seeking methods for blending its credit classes with its corporate and continuing education classes in order to be more responsive to the needs of business. The college is also focusing on innovative delivery systems, including the International Community College, interactive video formats, and the Internet. In short, CPCC is accelerating its focus on customers and its responsiveness to the needs of employers. As the competition for diminishing resources increases in the public sector, CPCC recognizes the importance of focusing on workforce development as a key part of its overall mission.

The effects of international competition and increasing domestic problems have created new demands on the fundamental structures of government and education. Community colleges face serious issues regarding decreasing revenues and increasing expectations. In the midst of this uncertainty, CPCC sees an opportunity to strengthen its position as a critical service provider and to provide better services. The college, its governing board, and its leaders strongly believe that financial, political, and social benefits abound for institutions that shift or expand their missions, resources, and efforts to strengthen their community's economy—especially community colleges. Collaborating with government, businesses, and community agencies has become the normal operating mode for the college as it moves into the 21st century.

CPCC is deliberately erasing the traditional instructional division lines between credit versus noncredit and vocational versus transfer courses and is attempting to focus on the current needs of its primary customers—students and those who employ them. To do this, the college is serious about providing customized instruction which is need-based and market-driven. Courses are being designed to serve new learner needs in five general categories: emerging workers; existing workers; entrepreneurs; transitional workers; and avocational workers. Of course, these categories are not meant to be limiting, but, rather, more definitive than the traditional credit and noncredit categories. Certainly any student, assuming he or she meets minimum entrance requirements, may take any course the

college offers, but there is a practical utility that accompanies the new categories. Faculty, staff, and administrators now think about instruction as being directly associated with human development and the workplace. They are concerned with "student needs categories" as opposed to "college instructional categories."

A major component of this cultural shift within the college is partnering with businesses. An excellent example of such collaboration is the partnership between Central Piedmont Community College and Okuma America.

Background and History of Partnership

The Okuma America partnership dates to 1987 when the Okuma Machine Tool Company decided to put a manufacturing plant in the United States. Okuma is a high-tech machine tool manufacturer with headquarters in Oguchi, Japan, on the outskirts of Nagoya. Nagoya is an industrial city second in size only to Tokyo, and lying just to the southwest. Because of United States trade restrictions at the time, key Okuma products like Computer Numeric Control (CNC) machine tools had strict import limitations. Okuma decided the only way to compete for the American market was to establish a U.S.-based manufacturing site. It has since expanded into North and South America.

When the company was deliberating about location, Central Piedmont Community College became involved as part of the regional economic development team. A pre-employment plan to assist in the start-up operations was crafted by CPCC's New Industry director. The New Industry department worked with Okuma America to design training and recruitment activities. Education in technical, basic, and communication skills followed, along with hands-on manufacturing training. In eight short years, what began as a start-up operation with only a few employees has grown rapidly into an organization with more than 340 employees and revenues of over $239 million.

After the establishment phase, the company and the college maintained what could be characterized as a conventional relationship. From time to time, the company sent employees to the college for classes and made generous contributions of CNC machines for use in training.

Okuma America's human resources manager explained, "As the company grew, not only did its needs for training internal employees grow, but so did the need for training external personnel."

The president of Okuma America had a distributor network of sales and service personnel all over the country who needed to obtain and maintain knowledge of state-of-the-art equipment. Furthermore, customers needed to fully understand the equipment and its features to maximize its productivity.

Creation of a Technology Institute

Timing was everything in the 1994 formation of the CPCC Okuma Technology Institute. The company was growing quickly and needed quality training for its internal and external constituencies. At the same time, the college, under new leadership, was broadening its workforce development mission. Research had validated the need for more accessible, convenient, and customized education for manufacturing businesses as well as other industries.

With the assistance of CPCC's research department and the guidance of the president of the Manufacturers' Council of the Charlotte Chamber of Commerce and plant manager at Westinghouse, a demand analysis was conducted using an extensive survey. The results gave the college, the company, and the manufacturing community as a whole the impetus to go forward with the implementation of the technology institute.

Together, CPCC and Okuma partnered to provide a facility that would serve the company's technical training needs and be a community training resource for the local manufacturing industry at the same time.

None of this would have been possible without the vision and leadership of the Okuma CEO, who saw the value and importance of education for his company, his industry, and his community. His enlightened philosophy about the role of the corporation in the community paved the way for this partnership.

Activities and Programs of the Partnership

Organization. The partnership between Central Piedmont and Okuma is informal. The college provides computers, equipment, software, furnishings, and expertise. Okuma provides classroom space and labs, as well as access to its CNC machines for hands-on training. The college also provides a normal range of support services—scheduling classes, hiring faculty, marketing the institute, and evaluating courses. Okuma provides input on course scheduling, context and selection, and receives a free training slot for one of their employees in every class taught.

The partnership is managed and staffed with a coordinator from the Corporate and Continuing Education division. Corporate and Continuing Education is one of the four main instructional units of the college, responsible for 37,000 of CPCC's 60,000 students. The college's workforce development initiative enjoys the strong support of CPCC's president. A dean handles policies and negotiations with the company, and day-to-day work is conducted by a full-time coordinator. Okuma's human resources manager coordinates the partnership for the company.

The Manufacturers' Council of the Charlotte Chamber of Commerce and the area business association also play key roles. Without ongoing input from these and other industry professionals, the institute could not enjoy its

Courses are open to the public but are targeted towards employees of manufacturing companies in the area. The schedule of offerings appears in the college's schedule each quarter, and a brochure is sent to surrounding companies.

current success. The president of the Manufacturers' Council and the vice president of Okuma are particularly instrumental in this regard.

Staffing. The college selects instructors with input from industry, especially Okuma. The instructional staff includes both full-time and part-time individuals selected based on their knowledge and ability to teach in industry.

The coordinator of the project is assigned to the business and industry services department of Corporate and Continuing Education (CCE), led by a director who is one of eight that report to the dean. Several of these directors have responsibility for business and industry training, both at business sites and on campus. Directors are organized into teams that target the predominant market segments of the Charlotte region. CPCC's Okuma coordinator works directly with the CCE team, thus assuring that the center's efforts are coordinated with those serving other aspects of the manufacturing industry.

The Okuma coordinator receives supervision and instructional support from Okuma America. A publication specialist assists regularly in the designing of appropriate marketing strategies and materials. Clerical assistance is provided by Okuma as well.

In addition, the coordinator often calls on several of the Corporate and Continuing Education full-time specialists to teach, design instruction, or to recruit and train instructors. The importance of having full-time specialists who can develop instruction, recruit appropriate part-time expertise, and maintain high-quality and well-delivered instruction cannot be overemphasized.

Through the college's relationship with the Southeast Manufacturing Technology Center (SMTC), specialized technical instructors are often brought in to teach technical courses either at the institute or at client facilities.

Periodically, the CPCC director of research is called upon to help assess demand, and the research to date has proved very valuable. Because of this ongoing evaluation, only one course had to be canceled due to low enrollment in the first year of course offerings.

Overall Program. The center offers an array of short- and long-term training degrees and certificates. Courses such as Time Management; Accounting, Production, and Inventory Control Systems (APICS); Statistical Process Control; Supervision; and Teamwork dominate the short-term training offerings.

These kinds of courses have a wide appeal not only for Okuma, but also for other companies in the area. Clients send employees to take the particular class or classes that will most enable the company to operate the plant at an optimum level. Many of these offerings, such as the machinist courses designed for Okuma, are structured so that they can be credited toward an associates degree. In this manner, the Training Institute's instructional offerings are part of a much larger set of educational options.

Courses are open to the public but are targeted towards employees of manufacturing companies in the area. The schedule of offerings appears in the college's schedule each quarter, and a brochure is sent to surrounding companies. Approximately 30 percent of the first students enrolled were Okuma employees.

The site is also used as a testing center for prospective employees by the new industry unit of the college. Pre-employment training classes are arranged and employers are able to select from the pool assembled and tested. The process helps both employers and employees make the right match before employment begins.

In-service meetings for large groups (25-50) are conducted by the college as well as the company. The flexible space is very conducive to these kinds of activities. Okuma uses the facility to bring its distributors, sales staff, and suppliers together for in-depth product training. The in-class experience is coupled with a tour of the plant, allowing the participants to come away with a knowledge of not only what the product can do, but how it is made.

Programs and Services

Assessment/Training. The college uses an employee assessment package developed by CPCC's New Industry director, as well as the Zenger Miller package. Environmental and safety classes are also available. Small business and import/export courses will be offered at the institute. A computer-based workplace basics lab is also being planned. Individualized instructional packages will enable participants to learn and reinforce both technical and basic skills.

Registration Services. On-site registration, advising, and bookstore services are scheduled at the institute the beginning of each quarter. A coordinator is available to advise students during the quarter.

Teaching Aids. Okuma provides traditional teaching aids such as overheads, white boards, and VCRs. The company's hospitality has even extended to the students' "snack needs." When the building first opened—before vending machines had been installed—Okuma provided soft drinks in the lobby for night students, a wonderful model for quality and customer service!

Advisory Committee. An advisory committee composed of representatives of area business meets

quarterly to advise the institute about future programs and services. This important community link helps ensure that the institute's programs are relevant, timely, and meeting the needs of customers.

Facilities

Okuma purchased a 50,000 square-foot building on 15 acres adjacent to its plant in 1993. The completely renovated space now contains 14 state-of-the-art classrooms, a demonstration/showroom, and a computer center. Central Piedmont purchased the software, equipment, and furniture for the computer center, which it now operates. The showroom, complete with Okuma's costly CNC equipment, is used for learning activities, as well as for providing demonstrations to students, distributors, and customers.

The building was dedicated in July 1994, and the first classes were offere in the fall of 1994. A number of dignitaries, including the mayor, were on hand to acknowledge the importance of the resource this partnership had created for the Charlotte business community. In the first six months, 12 companies and 200 employees received training through the institute.

A walk through the institute's lobby with its beautiful and imposing displays conveys an instant message that high-quality learning is practiced. Instructional delivery methods used at the institute include teamwork, role play, lecture, plant tours, and hands-on training for computer CNC programming and operations classes. Because Okuma is one of the best known CNC manufacturers, the college has gained access to otherwise unaffordable equipment to train students. Future plans call for using distance learning, and Okuma has already approved plans for a teleconferencing auditorium.

In the near future, the partnership will expand to address the training needs of other area industries with the kind of education and technical training offered by the institute. In the long range, the college plans to build a campus nearby to accommodate technical training not now available at the institute, such as flexography.

Funding

The partnership with Okuma required an initial large investment of space, renovation, and equipment, all of which were provided by Okuma. The college purchased computer software, furniture, and equipment for the computer center. All instructional planning, training, and coordination activities (including those open to non-Okuma clients) are funded and sustained with college resources.

Okuma provides funds for building maintenance, while the college is responsible for marketing and instructional expenses (faculty salaries, materials, course development, supplies, printed schedules and brochures, advisory committee costs, and other related expenses).

Evaluation

Classes are evaluated by students and are observed by the CPCC coordinator and the Okuma training director. Responsiveness to community demand is assessed through research and by the advisory committee. The dean and director maintain open communications with company leaders; all involved feel they can be candid in these communications. Competency-based measures like those that relate to productivity (production, absenteeism of employees, etc.) have yet to be developed.

Impact on the Community

The partnership is valued highly by both the college and the company, and its benefits are numerous. It is difficult for a college to keep up with the latest technology for training, especially when it involves highly specialized machines like CNC equipment manufactured by Okuma. By training in this innovative company setting, both college students and manufacturing employees have access to quality education using the most advanced equipment. The investment is leveraged by opening the facility to functions for sales staff, distributors, and customers.

The company's and the college's images in the business community and the community at large are enhanced by this partnership. The economic development capacity for the community in general, and the manufacturing industry in particular, is enlarged by this training facility. Finally, by making education convenient and affordable, individuals and companies can more easily develop their work forces and do so with a much greater frequency than was possible in the past.

Lessons Learned

CPCC and Okuma have learned several lessons. One is the value of a keep-it-simple philosophy. The partners took a mere nine months from conception to implementation to create the Okuma Technology Institute. Because they kept the vision clear, the process was simple, and unnecessary bureaucracy did not complicate efforts. Both partners had champions that operationalized the vision and have remained vigilant about attending to its success. Finally, ongoing communication and flexibility have sustained the initiative taken. These practices have helped the partners build a technical institute that contributes not only to their own organizations, but also to the economic development and vitality of the entire Charlotte business community.

About the authors: Sherrie Kantor is dean of corporate and continuing education at Central Piedmont Community College in Charlotte, North Carolina; Rick Kipp is human resources manager at Okuma America; P. Anthony Zeiss is president of Central Piedmont Community College.

Chapter 2

Cuyahoga Community College and Ford Motor Company

Jerry Sue Thornton and Lois E. Baron

Upgrading skills for success in today's and tomorrow's work environment takes some creative planning and often requires a departure from traditional educational processes and structures. Such was clearly the case in the partnership between the Walton Hills UAW-Ford/Cuyahoga Community College. It was not until the Unified Technologies Center, an innovative, creative entity within the community college, constructed a customized, nontraditional program for Ford that a viable relationship was possible. This journey illustrates the need for rethinking and reorganizing if the community college is to effectively serve industrial needs and become a true partner in planning and change.

Background

Cuyahoga Community College (Tri-C), founded in 1964, is a public, comprehensive community college whose mission is to provide high-quality, accessible and affordable educational opportunities and services—including university transfer, technical, and lifelong learning programs that promote individual development and improve the overall quality of life in a multicultural community.

The college offers university-parallel programs that provide the first two years of a traditional four-year college or university curriculum, and career and technical programs to meet the ever-growing need of the local community for technicians and paraprofessionals trained at the two-year degree level. It also provides a broad range of cultural, educational, recreational, and occupational offerings to meet the lifelong learning needs of county residents.

The first institution of its kind in Ohio, the college began in a renovated school building which grew to three campuses and two alternate learning sites. The college now has 77 degree programs, a sophisticated distance-learning program, and a multitude of partnerships. Reaching out to the community, Tri-C's partnerships extend to business, industry, labor, the arts, government, other educational institutions, neighborhood groups, and special-needs populations. These partnerships include a unique science, math, and engineering program with NASA that begins in kindergarten and moves through the 12th grade; the secondary school Northeast Ohio Tech Prep program; special automotive training; and the Unified Technologies Center which opened in 1986. Through these relationships, the college stimulates economic and human resource development and enhances the quality of life for Cuyahoga County residents.

Service District. The population of the college's service area declined 18 percent between 1970 and 1990, from 1,720,835 to 1,412,140. At the same time, poverty has increased. According to the Council for Economic Opportunities of Greater Cleveland, 68.6 percent of all census tracts in Cleveland were considered in poverty in 1970. By 1990, the figure had risen to 93.1 percent with one-half of all people residing in Cleveland below the poverty line. Even the suburban tracts in poverty showed considerable increase: from 6.3 percent in 1970 to 25.7 percent in 1990.

Long-term trends show that Cleveland has lost relative strength in employment. During 1979 to 1983, Cleveland lost 9.8 percent of all jobs compared to an 8.7 percent loss in Ohio and only a 1.9 percent loss nationally. From 1983 to 1990, Cleveland employment increased only 14 percent, while Ohio gained 18.4 percent and the United States 23.4 percent.

The major employment sectors in Cuyahoga County are retail trade, durable-goods manufacturing, health services, education, other professional services, and finance, insurance and real estate.

Losses have occurred in such traditionally large employment fields as miscellaneous chemical manufacturing, the motor vehicle industry, and basic machinery. As is true nationally, Cleveland has gained positions in the professional and service fields such as nursing, hospitals, and business services.

Fighting to reverse negative trends, Cleveland is now known as the "Come Back City." It has revitalized its downtown, built a new baseball stadium and arena complex, and received $90 million from the federal government for economic development zones. There is intense focus on neighborhood revitalization and improving the school system. In the fall of 1995, the Rock and Roll Hall of Fame opened as Cleveland celebrated its bicentennial. The college is represented on all economic development boards and is considered a valuable community resource.

Student Body & Faculty. 1994 enrollment was close to 25,000, including both full-time and part-time students. The college draws its students primarily from Cuyahoga County. Over two-thirds attend part-time, and 70 percent attend class primarily during the day. Approximately 30 percent of the students are minorities; the average age is 30.

The students are primarily from low to moderate-income households, with nearly half receiving some form of financial aid or scholarship assistance. The socioeconomic status of the college's students reflects on

their academic preparation, with the majority needing developmental preparation.

The college employs 374 full-time faculty, 306 of whom are tenured; and 850 to 925 part-time faculty, depending on enrollment. The student/faculty ratio is 21 to one. Two hundred fifty-three full-time faculty have masters degrees, 98 have doctoral degrees, and the balance have the baccalaureate or its equivalent.

The Partners

Cuyahoga Community College Unified Technologies Center. The Unified Technologies Center (UTC), which opened in 1986, is designed to provide innovative resource services; introduce new technology into the workplace; support productivity, quality, and worker skill upgrading; and improve organizational performance by building employee skills and knowledge levels needed to meet changing job requirements.

It houses the Louis Stokes Telecommunications Center, a state-of-the-art teleconferencing facility for conducting meetings and training sessions locally and worldwide; the Cleveland Electronic Commerce Resource Center which helps manufacturers move from paper-intensive to more highly automated modes of operation; and the Manufacturing Learning Center (MLC).

The Manufacturing Learning Center enables engineering technology students to gain experience on company projects in a manufacturing setting. UTC's Resource Facility, of which the MLC is a part, provides "state-of-the-market" hands-on assistance to help businesses understand manufacturing technology applications and train their employees in the use of manufacturing-related technology. It also supports credit programs in engineering, quality improvement, and business management. The state of Ohio provided $2.5 million to help create the Manufacturing Resource Facility. These funds were used for equipment acquisition and necessary facility modifications.

Parallel to the UTC is the Center for Training and Economic Development which supports programs to meet city and county public sector training needs. The UTC is an affiliate of the Cleveland Advanced Manufacturing Program (CAMP), one of Ohio's Edison Centers and the college's primary vehicle for participation in areawide economic revitalization, worker training, and technology transfer strategies.

Ford Motor Company. Ford Motor's Walton Hills Stamping Plant is a supplier of quality sheet metal stampings to Ford Motor Company assembly plants in the United States, Canada, and Mexico. Walton Hills is designated as a surrogate supplier to the Lorain and Ohio assembly plants located in Lorain and Avon Lake, Ohio, respectively.

Walton Hills opened in 1954 and occupies 2.2 million square feet of manufacturing space. Annual production, through 24 major press lines and 12 major assembly lines, exceeds 152,000 tons of steel. At Walton Hills, that steel is processed into sheet metal automobile components. At present, there are 1,952 hourly and 204 salaried employees.

Ford outlined characteristics critical to a high-performance workplace able to compete in the changing marketplace: flexibility, employee empowerment, quality management for a continuously improved work force, skills training to improve problem-solving effectiveness, and task integration and problem solving through work teams.

In 1982, the Education, Development, and Training Program (EDTP) was established at Walton Hills and expanded in subsequent collective bargaining agreements. The National Education, Development, and Training Center (NEDTC), a nonprofit organization headquartered in Dearborn, Michigan, administers EDTP funding, develops programs, and provides support and on-site assistance to local EDTP committees. Although the EDTP is part of a national system, the types of programs that are offered at specific plants are determined by local joint EDTP committees, with representation both from the UAW and Ford Motor Company to ensure that regional needs are met.

Project Background

In the early 1980s Ford Motor was on the leading edge of a workplace phenomenon called "employee involvement," aimed at including the work force in decision-making processes. As employees became more involved, it became evident that many did not have the skills needed to be successful in improving the production process. Employees were asked to become familiar with operations such as statistical process control, charting, and report writing. At the time, the average age of a Walton Hills' employee was over 50, and many had either lost basic skills through years of nonapplication, or in some cases, had never learned these skills. It became clear that if the employee involvement concept was to succeed, ancillary training was needed to assist the workers.

Although Ford offered refresher courses, the wide range of employee skill requirements made it impossible to provide effective training through traditional classes. In 1986, aided by employee surveys and direct communication with workers, the plant's life education advisor and the local joint Education, Development, and Training Program committee learned that a significant number of employees

felt they needed additional skills training. With representatives from labor and management, and direction from the National Education Development Training Center, the Walton Hills committee sought out Cuyahoga Community College's help in developing a skills enhancement program (SEP) that would be accessible to all UAW-represented employees for basic skills enhancement, other remedial efforts, and lifelong learning.

An initial meeting, held with Cuyahoga Community College's division of continuing education, helped assess about 75 workers; about two-thirds of that group proceeded to work with Tri-C counselors to develop individual learning plans. However, because of the wide range of skills within this group and their varied work schedules, it was not possible to obtain a sufficient number of students at any level to support traditional classes. The program floundered.

Fortunately, at about the same time, the Unified Technologies Center at Tri-C was being established as a business training center for the purpose of providing workplace training services throughout Northeast Ohio. Considering the Walton Hills needs, it was inevitable that the UTC became the logical resource for Ford's program development.

In 1988, the UTC staff reevaluated the situation at Walton Hills and presented the local joint EDTP committee with an alternative solution. Based on prior experience with other companies, and because of the diverse needs and the variety of employee shifts, the UTC staff determined the best solution was a self-paced learning program which would be broad in scope, use a variety of multimedia instructional programs, and be housed at the Walton Hills plant. The local EDTP committee was interested and chose UTC as the training provider to open the UAW-Ford Education Center at Walton Hills in February 1989.

From the center's inception, the UAW, Walton Hills management, and Tri-C worked as collaborative partners to establish a program that could be supported by all the major stakeholders. Partnering in this way, especially in the planning stages, removed many of the barriers that can cause difficulty in securing stakeholder buy-in. Meeting regularly as a local EDTP committee, UAW representatives and Ford management representatives constantly sought new avenues to provide support and training to Ford employees in order to strengthen the organization.

Purpose. The goal of the Walton Hills UAW-Ford Education Center is to provide "educational enrichment" to workers that can be applied not only in the workplace but also in their personal lives. The major tenets on which the center was based include voluntary participation, confidentiality, and flexibility in designing programs so that they are maximally responsive to individual needs.

The Program

As an on-site educational program, the Center operates mainly under the leadership of the local EDTP committee, with the Tri-C Unified Technologies Center functioning in a consulting capacity. The UTC functions as an independent contractor and provides administrative, instructional, and skills enhancement academic advising services as requested by the Education Center committee. In addition, the college coordinates and integrates its services with other on-site education and training programs, as well as other joint programs. The college also employs and assigns a project coordinator, four instructors, and two teacher aides; faculty members are employed by the college.

Staffing. The Education Center staff consists of a manager and three teachers. There is a budget for clerical support, and when necessary, such support is provided by UTC employees. The manager is a certified teacher with a background in the Job Corps and business training, plus experience in teaching at the elementary, high school, and college levels. He reports to the director of the Unified Technologies Center. The three teachers, all with masters-level degrees, are certified and retired from their school systems. They were selected because of their experience and their ability to relate to the Walton Hills workers; they do not receive any special training from the Tri-C staff.

Program Content. In the 1980s, Ford Motor Company outlined the characteristics critical to a high-performance workplace able to compete in the changing marketplace: flexibility, employee empowerment, quality management for a continuously improved work force, skills training to improve problem-solving effectiveness, and task integration and problem solving through work teams.

Both labor and management at the Walton Hills facility recognized that by improving basic and thinking skills, and providing the opportunity for self-learning, they could affect the core competencies necessary to move their work force into the 1990s and beyond. To do this, the employees needed improved interpersonal skills, problem solving and mathematical skills, information processing skills, a better understanding of social, organizational and technological systems, and the ability to use current and new technology more productively.

When faced with the issues of varied schedules and educational abilities, UTC chose an interactive learning model for the center. With assistance from the local EDTP committee, a curriculum plan was designed to include audiovisual media (print, audio and videos), competency-based computer tutorials, and simulations.

The interactive learning model used at the Walton Hills Center was designed to incorporate certain goals: reduced training time, on-site availability of all courses to all employees, flexibly scheduled training sessions, increased student achievement, increased job proficiency, increased student/instructor satisfaction, immediate feedback on progress, and low attrition rates.

The center does not adhere to a rigid curriculum.

instead, it has the flexibility to address the particular needs and diverse interests of individuals. When employees improve their skills and gain confidence, overall organizational performance is improved and maximum results are produced. In addition to GED preparation, basic English, and mathematics, the program offers a broad spectrum of advanced courses and enrichment subjects, including effective communications, foreign languages, computer technology, personal development, and college preparatory work.

The Walton Hills UAW-Ford Education Center is linked with all training programs at the plant. By networking with counterparts within the company, the Education Center assists employees with the varied technical training programs offered by the company such as statistical process control, problem solving, technical process training, and safety. The programs offer support to participants and refer potential students to representatives from two-year and four-year colleges and universities. Spouses are also welcome to participate in the lifelong learning program, making continuing education a family affair and reinforcing its value in quality-of-life issues.

The Employee Comfort Zone. If a UAW-represented employee is interested in participating, the Education Center staff conducts a confidential assessment and academic counseling. Among the assessment instruments used are the Wide-Range Achievement Test, Gates-McGintie Reading Test, Test of Adult Basic Education, GED Pretest, and Math Achievement. Based on the results and the employee's goals, an individual learning plan is developed. If participants are uncomfortable with a formal assessment, they are encouraged, but not forced to participate. Even without formal assessment, the instructor works closely with the student to develop an individual learning plan.

As students complete course modules, testing is offered to allow them to measure their progress. While the majority of students participate in testing, it is not required. The partners in the program are committed to voluntary participation because it is frequently the learning process, not test results, which gives the greatest benefit to the worker.

All learning plans, assessment results, training records, and conversations with instructors remain completely confidential between participants and the Education Center staff. Maintaining a consistent staff at the center has established a safe and secure environment that builds trust in the program.

Confidentiality. When the Education Center was first developed, the concept was not well received. Employees distrusted management and the motives behind the program's development. Some lacked appropriate education and training prior to employment at Ford, and others felt insecure admitting that they needed training and some remedial help. Immediately it became clear that the employees would enter the program only if there was complete confidentiality. Therefore, management was not privy to the names of those in the program. Once the confidentiality policy was established and some workers completed parts of the program, the students themselves became advocates for the Education Center. When younger workers learned of the older workers' success, they responded positively and enthusiastically.

Continuing good word-of-mouth for the center is a natural outgrowth of this success. Additionally, the Education Center's staff remains highly visible throughout the plant. They are continuously available to workers, gaining their trust, providing educational advice, and accepting informal referrals from coworkers, foremen, supervisors, and company trainers in a nonthreatening way.

Facilities. The Ford Motor Company provides the Education Center a 60-foot by 15-foot area within the plant which accommodates a large work area and three smaller rooms for individualized testing and learning. The center is located near the plant floor and is easily accessible and convenient for employees. Thirteen computer stations are available, eight in the main lab and five in more private areas. Education Center instructors work part-time in the center, which is open 44 hours a week.

UAW (Local 420) makes its facilities available for additional training-room space and the annual education recognition ceremony where workers receive Certificates of Achievement.

Financial Support. Financial support comes from a negotiated agreement between Ford and the UAW which established the UAW-Ford Education Development and Training Program. The jointly administered, comprehensive EDTP serves the interests of UAW-represented Ford employees, the union, and the company. The program promotes training, retraining, and development activities. In the process, the program also contributes to the competitiveness and well-being of the company—aspects which are essential to job security, personal growth, and development of Ford employees.

Through this negotiated agreement, a UAW-Ford National Education, Development, and Training Center was established in 1982 as a separate and distinct entity. The National Center and the program are under the general direction and guidance of a joint governing body consisting of representatives of the UAW and Ford management. Through the National Center, Ford and the UAW make available a wide range of educational, training, and retraining services and activities, and support other joint activities as agreed upon by the governing bodies within the level of funding as provided in the negotiated agreement.

Funds for the program are negotiated yearly between the local joint EDTP, the provider (UTC), and the National EDTC. The UAW-Ford National Education Development and Training Center reimburses the college for services

performed, equipment, furnishings, and instructional materials. All furnishings, equipment, instructional software, videos, books, and materials purchased by the college for the project become the property of the center upon reimbursement of the college's costs.

Marketing the Program. The goals in marketing the program are twofold. First, the Education Center staff makes sure that workers feel comfortable coming into the center; second, they ensure that workers clearly understand all the available programs. New employees learn of the program during orientation and view a video called "*The Breakfast Club,*" which highlights the benefits of the SEP. There is an annual education fair and quarterly open houses. Throughout the year,the Education Center provides announcements over the plant's closed-circuit television system, bulletin boards, in the union local monthly newsletter, and in the employee news publication. In addition, at least twice yearly, Education Center staff distribute brochures containing course information and technology news to every worker entering or leaving the plant.

Evaluation

One of the principal challenges for the Education Center was that the development of outcome measures abide by the confidentiality policy, and remain nonthreatening, yet useful. All past and present students are surveyed with a National Education Center form and a center-developed survey. The goal is not only to evaluate the present programs, but also to help in planning future offerings. The return rate on surveys is about 10 percent. The center provides both quantitative and qualitative measures including participation rates, participant return rates, participant successes, impact on the workplace, and informal feedback from participants and management.

A bimonthly report summarizes the following information: recruitment and follow-up coordination with other programs; instructional activities; the number of participants in each program; and the number of participants who have attained their personal learning goals. These reports are sent to the college and to the Ford/UAW committee. Participation rates and participation return rates are two valuable indicators of the program's quality. Participation rates reflect on the program's ability to offer interesting and effective courses to the workers. The program manager, as an employee of the college, is evaluated for administrative performance through the Cuyahoga Community College system.

Results

In 1989, the first program year, 185 employees participated. Currently, 943 of the 1,952 hourly workers at the plant are involved in the program. This represents over 48 percent of the hourly work force, which is an impressive participation rate for a voluntary program that takes place on the employee's own personal time. Fifteen participants have received their GEDs, and 336 have succeeded in college-level courses. Most importantly, 632 workers have attained their stated individual educational goals.

The program's greatest impact is evident in the overall improvements in employee attitude, personal growth and development, and job performance. Prior to the program's inception, the hourly work force's level of involvement in the day-to-day business operation was minimal at best. Worker and management representatives have since reported that the participants feel more comfortable with the technical aspects of their jobs and are better prepared and more confident about joining in discussions focused on improving efficiency and product quality.

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The employees' confidence in their ability to adopt and maintain modern operating techniques has also grown significantly, and in turn, has greatly enhanced the competitiveness of Walton Hills. The plant's success is reflected in its recent selection for the prestigious Q-1 Award by Ford Motor Company. This award is given to a plant that demonstrates having discipline and verifiable systems in place to effectively reduce variability, resulting in consistently improved quality.

But the program's real success is seen in some individual stories: a metal finisher, participating in the program since 1989, recently received his GED and is now a quality control representative at customer assembly plants; another participant who started the program in 1989 received his GED and enrolled in a degree program at the college—he recently accepted a salaried position at Walton Hills; a female participant, who initially exhibited low self-esteem, was selected to conduct tours through her department for visiting Q1 inspectors; and a spouse participant received her GED and has since been promoted from secretary to supervisor at her bank. She continues her education in the evenings.

While the benefits from the program are impressive for Ford and its employees, the UTC also finds it the effort valuable. The UTC uses the program as a model for other large corporations: Westinghouse Naval Systems Division

contracted with UTC for program development after an on-site visit to Walton Hills, and four other large corporations now have similar individualized programs. The UTC is building a reputation for skills enhancement programs that work.

In addition, the college benefits as workers and their spouses gain confidence in their ability and go on to college-level courses at Tri-C. The learning center, as the pivotal training resource, nurtures a close relationship between Ford and the area's institutions of higher learning.

As a publicly supported college, Tri-C gains a large part of its funding through levies. The Walton Hills administration and union provide invaluable support during levy campaigns and contribute to the high passage rate of these initiatives in the county. It is gratifying to see that the partnership engenders not only employee education, but support for excellent education in general.

Unexpected Results. The program was designed as a single, stand-alone program, not officially integrated into any other activities at the individual plants. Walton Hills, like most plants, had various other training initiatives underway, sponsored by both joint labor/management programs (apprenticeships and employee involvement) and Ford itself (new equipment training, statistical process control, technical development). During the initial planning of the Walton Hills Center, consideration was not given to how this program would be integrated into other training and development activities at the facility.

Due to the center's quality staff and the good relationships between labor and management, the Education Center quickly became a vital link to all training initiatives already in place. Training coordinators are quick to recognize that support services are available to their participants through the Education Center. They have developed close relationships with the Education Center staff and refer employees for special assistance or development, all the while maintaining the individual's anonymity and confidence.

Another unexpected result was the number of older workers that quickly participated in the Education Center. Initially it was thought that the younger employees would be more motivated to take advantage of this educational resource. Surprisingly, the more senior workers were the first to recognize the value of the educational services. As a result of this, the senior workers were eager to share, teach, and mentor the newer members of their work teams, as they felt more comfortable with their own skills and knowledge.

Challenges. Because the program is designed as a voluntary, confidential program, the major challenge is to design systems that will accurately measure the results and impact on both the individual and the organization. Short-term impact measurements are difficult to obtain due to the fact that participation is voluntary and confidential. Nonetheless, reporting and information sharing strategies allow the capture of specific positive changes in both individuals and processes that can be attributed to the availability of Education Center programs.

Program Replication. Because the Walton Hills Center is so flexible in design, the potential for replication by other organizations is unquestionable. This program is an excellent model for those organizations with a work force requiring diverse learning needs. The start-up costs soon pay off in this kind of long-term, continuous learning environment. The critical factor to consider is the organization's commitment to investing in its human resources and the value it places on lifelong learning as a key to organizational success.

The UAW, Ford, and Tri-C have offered information to numerous groups and organizations wishing to duplicate the Walton Hills success. Tri-C has used this successful model as a basis for development of other work-based learning centers. The program gained national attention when it was recently profiled in a report to the United States Congress on the use of technology in the workplace.

The Future

The pace of change in business and industry is staggering. It is difficult enough to keep abreast of new technology and human resource development, but if corporations are not only to keep up but also to grow, systems that are both innovative and creative must be developed. What has been learned so dramatically in the Walton Hills project is that traditional educational constructs may work for the college, but they may not be pertinent to the real needs of real companies. It is to everyone's credit that the initial failure to establish classes did not end the search for appropriate learning opportunities. Cuyahoga Community College is indeed fortunate to have the Unified Technologies Center dedicated to the innovative, creative programs so necessary in today's marketplace; other colleges can adapt the concept in rethinking their relationships with business and industry.

The Walton Hills project is built on common sense and a certain simplicity. It takes the latest technology and makes it accessible, nonthreatening, and life enhancing. It binds workers and management in a positive relationship. It places instructors and students within a trusting experience. It opens up options and expands possibilities. And all this is accomplished within a cost-effective, personalized program that ends up giving the company and the workers the long-term results necessary to improve both quality of life and the competitive edge.

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Chapter 3

Dallas County Community College District and the National Corporate Supplier Training Network

Glen I. Bounds, Daniel Mancillas, and James Picquet

In an interdependent economy where the lifetime of competitive advantage is often measured in days, a corporation's success often relies on the knowledge, quickness, and quality of its suppliers. Recognizing this, seven Fortune 500 companies—including four Malcolm Baldrige Award winners—formed a consortium in 1993 with their suppliers and a group of selected community colleges. The effort started with a vision to create a world-class training system that accelerates supplier learning and improves performance for competitive advantage. The Consortium for Supplier Training, as it came to be called, originally consisted of Digital Equipment, Eastman Kodak Company, Motorola, SEMATECH, Texaco, Inc., Texas Instruments, Xerox, and six strategically located community colleges. Texas Instruments and the Dallas County Community College District's Bill J. Priest Institute for Economic Development formed the vanguard of this effort to deploy world-class best practices throughout the supplier network of 21,000 large and small companies.

Background. While the Dallas County Community College District has been engaged in workforce training since its inception, it was not until 1984 that the district created a separate corporate training division, the Business and Professional Institute, which focused exclusively on the training needs of business and industry. By 1986, the U.S. Small Business Administration had designated the Dallas County Community College District as the Small Business Development Center (SBDC) for North Texas, covering a 49-county area. Three specialty centers were added as part of the North Texas SBDC: the International SBDC, the Center for Government Contracting, and the Technology Assistance Center. In 1989, this cluster of business programs was located in the Bill J. Priest Institute for Economic Development, a new $10.2 million facility which also included Job Training Partnership Act (JTPA) skills training programs and a business incubator. The formation of the Consortium for Supplier Training presented an excellent opportunity for the institute to expand its scope of services to small businesses as well as large corporations.

The consortium is an organization of total-quality-focused global companies headquartered in the United States. It was created as a means to increase access to training while reducing resources and duplication of activities. The mission of the consortium is to provide knowledge and methodologies to the U.S. supply chain that will enhance the quality of products, achieve customer satisfaction, and strengthen U.S. suppliers by providing a solid foundation of total-quality methods and processes. To deliver the training, network members selected six community colleges known for their responsiveness to business needs and for their expertise in adult education. They are the Dallas County Community College District, Dallas, Texas; Finger Lakes Community College, Canandaigua, New York; Houston Community College, Houston, Texas; Mesa Community College, Mesa, Arizona; Monroe Community College, Rochester, New York; and Northern Essex Community College, Haverhill, Massachusetts.

This powerful national team provides total-quality-related training that is affordable and accessible to small businesses on an ongoing basis. Never before had major corporations joined to share their best quality processes and design a curriculum and strategy to make them available to suppliers through community colleges. The benefits of this move are standardization of prime contractor requirements and common language; customer/supplier cooperation and sharing of information related to quality issues; a monitored process to minimize duplicated efforts by reducing overall cycle time and avoiding reinventing efforts; and lower cost of individual training.

While the consortium was originally developed to serve corporate suppliers and their specific quality training needs, it has grown in size and scope and now qualifies as a national model. Not only has the effort evolved to serve anyone who approaches a supplier training center with a specific need, but training is now seen as only one part of the overall effort. Consortium leaders have become increasingly concerned about assessing training needs in the context of strategic plans to generate radical change improvement when training is finally provided. These leaders have determined that training without consultation and support in implementation of training concepts is not likely to generate radical change. Therefore, a complete performance improvement system has been developed which includes assessment, consulting, intervention, training, implementation, and evaluation.

Ultimately, this approach will help several thousand suppliers reduce waste, defects, cycle time, employee turnover, and the cost of conversions. By working together in this consortium, large and small businesses will also increase their competitiveness, improve market response, and secure greater opportunity for product and marketing experiments while realizing significant profits and

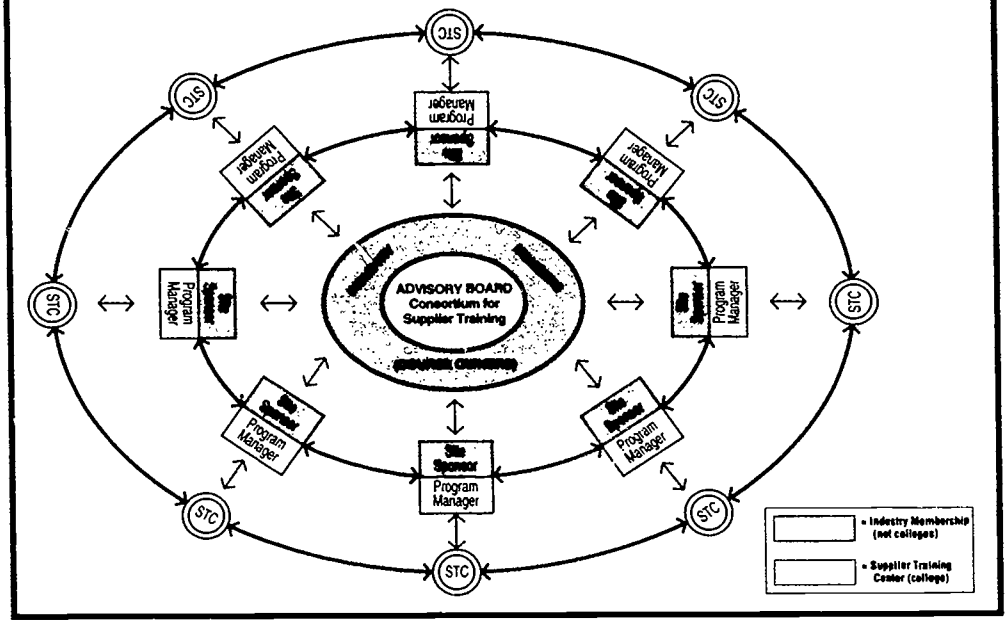
continuous quality improvements.

Purpose of the Project

The purpose of the Consortium for Supplier Training is to adapt, test and deploy a set of total-quality courses among suppliers to enhance product quality, achieve customer satisfaction, and maintain a competitive edge in the commercial arena.

By consolidating these courses and deploying them through community colleges, the network can assure delivery of a high-quality curriculum that is comprehensive, consistent, effective, accessible, cost-efficient, and nonduplicative.

Consortium for Supplier Training Interface with Training Centers



Description of Partnership

Organization. The organizational approach is very straightforward. Governed by an advisory board, the eight participating companies develop high-quality manufacturing processes and tools they wish to share with their suppliers, other manufacturers, and the general public.

The companies serve as site sponsors and, through their program managers, design a 12-course core curriculum in total quality for selected community colleges serving as supplier training sites. The companies form a national supplier training network that trains and certifies key faculty members from each college in the new curriculum.

Staffing. The Consortium for Supplier Training is an industry-driven organization. Quality-focused companies headquartered in North America may be admitted to membership in the consortium by approval of the advisory board, composed of seven members of the consortium that govern the partnership. Each corporate member is responsible for sponsoring at least one supplier training center and providing ongoing support to the center. Companies not sponsoring or selecting a supplier training center, but still wishing to participate, may join as associate members provided they support a training center with financial or other resources, provide a training course, or actively participate in one of the consortium teams.

Specific responsibilities of the advisory board include:

- determining qualification requirements and processes for instructors;
- maintaining membership agreements and agreements with supplier training centers;
- maintaining supplier training center model specifications;
- managing consortium expansion;
- providing consortium communication;
- conducting independent supplier training center quality systems reviews;
- determining curriculum needs and identifying and supplying training materials to the supplier training centers;
- developing standardized course evaluation forms;
- approving supplier training centers for the consortium;
- and budgeting 25 percent of the advisory board members' time to support consortium activities.

Faculty members are drawn from the ranks of college faculty among the network's training centers. Prior to training suppliers, faculty undergo training themselves, under the sponsorship of industry representatives. Upon successful completion of "trainer training," college faculty are then certified to teach the specialized curriculum by the corporate member sponsoring the training.

The Consortium for Supplier Training advisory board carefully selects instructors who:

- are familiar and experienced with adult education/ learning concepts;
- are available and able to provide follow-up consulting after the delivery of the training;
- represent the college and the Supplier Training

Network as role models in the practice of total quality with demonstrated clear understanding and commitment to total quality;

- possess good listening and communication skills and questioning techniques;
- demonstrate an ability to relate the course concepts to a broad representation of industries and individual needs;
- have experience in delivering facilitation-based training;
- show tolerance and flexibility in the use of industry terminology and acronyms;
- hold an educational background appropriate for the level of training and target audience—at a minimum, a bachelor's degree or equivalent experience;
- have some exposure to high-tech manufacturing and an understanding of the issues and needs involved; and
- can conduct workshop-style training using a combination of facilitation and good presentation skills.

Overall Program. The consortium advisory board meets quarterly with the supplier training council to ensure that program activities are on track. These activities include: a combination of assessment services, strategic planning assistance, training, consultation, and evaluation services for suppliers of the consortium members; and the development of curriculum and consultation strategies that emerge from benchmarking the best-in-class submissions from member colleges and companies.

Service. The Consortium for Supplier Training has evolved to serve anyone who approaches a supplier training center with a specific need that can be addressed through its offerings. The consortium board has determined that second- and third-level suppliers form a web that crosses over most businesses in some manner. The board is still concerned about primary or "strategic suppliers" receiving priority support to undergird the consortium's continuous quality improvement programs. Nevertheless, the overall movement of all companies to the use of improvement systems is seen as a primary service concern.

Supplier training centers discovered their own college districts have benefited from the establishment of continuous quality improvement programs using the consortium materials as the base for internal staff and program development. Some have shared the training with local school districts and regional associations. These efforts, however, continue to be concentrated primarily in the service areas of the colleges that have a supplier training center.

Content. The consortium provides courses which focus on corporate improvement. While the primary focus is on a select group of quality courses, the delivery of other courses such as literacy, computer skills, and manufacturing skills are considered important to improvement systems.

Training through courses, however, is seen as only one part of the overall effort. In the last year, the consortium has become increasingly concerned about coupling the assessment of training needs with strategic plans to generate radical-change improvements after the training is provided. Training without consultation and support in implementation of training concepts is not likely to generate radical change. Because of this, benchmarking the best implementation strategies that incorporate training as a component has been a focal point in developing new content.

Instructional Delivery. All courses are designed to be delivered in a one- to two-day classroom format. They are supported with a variety of media including video discussion starters, examples of best practices, transparency sets, instructor and participant workbooks, and a host of hands-on case studies and modeling exercises. To date the only use of new technology as a delivery method is in Motorola's Six Sigma class which is now offered in a self-paced computer or CD-ROM-based version. Texas Instruments is currently considering the use of its business process management course as a possible submission for the first video course.

Special Innovations. Special innovations or strategies employed in each course are highlighted through simulation and role playing. Of special note are exercises that allow students to design a manufacturing course in "lean manufacturing" of a portable solar power collection station. In this exercise, teams put together a best price and JIT-deliverable materials list, deal with cycle-time and waste management in product development, and produce a working prototype. The participants move from team and partnering concepts to using benchmarking processes that take into consideration a full set of engineering metrics. Other courses offer equally intense learning experiences and similar types of attention-holding strategies and simulations.

Special Features of Cooperation. A few of the special cooperation efforts between colleges and corporations should be considered. Texas Instruments has provided the means to hold one of the board meetings via two-way teleconference using its satellite network and connections to six institutions. Rotating meetings between corporate and college locations provides opportunities for college trainers and consortium members to have firsthand, behind-the-scenes, and often restricted-area tours of corporate design and manufacturing areas never before toured by outsiders, much less a diverse audience of competitors. Access to corporate strategies and long-range plans place supplier

training colleges on the "leading edge" of technological change and provide an opportunity for radical change in the content of curriculum designed by these colleges.

Facilities. Several colleges have modified training facilities for special use in the consortium; others have had to move to larger facilities. Most of the colleges or training centers operate in facilities designed for business partnerships and training that go beyond the consortium activity, but nonetheless consider consortium activity as a key element in their delivery and facilities planning.

Funding. The partnership is supported by a variety of funding sources. Individuals and businesses enrolling for training pay tuition for each course. Corporations provide funding to underwrite the project through an annual partnership fee; a new associate membership category was created to encourage sponsorships that provide financial or in-kind resources. Each sponsoring company contributes training for college staff and helps with marketing.

Evaluation. The consortium supports a four-level evaluation process based on the Kirkpatrick Model. The companies provide level-one evaluation in simple review of course delivery, but the colleges encourage more intense levels of evaluation, including statistical process control and other forms of evaluation.

Impact

The consortium's efforts have resulted in increased competitiveness, reduced waste, reduced defects, reduced cycle time, increased market response, and decreased employee turnover throughout the nation. A related result has been to reduce the cost of conversions for companies and to provide them with greater opportunities to safely experiment with products and markets.

Displaced workers in defense-related industries, for example, now have viable alternatives. As defense manufacturing decreases, the conversion of those technologies to commercial sector applications is building momentum as the network provides opportunities for the majority to receive training in continuous quality practices. New products have already begun to emerge from redirected energies and creativity.

The friendly sharing of world-class courses encourages competitiveness and is one of the greatest advantages the consortium offers. The consortium approach fosters a gradual conversion that minimizes the number of total displacements, and retools the work force at the same time. Texas Instruments alone has identified 464 suppliers with 200 or less employees per company. Collectively, the network members and their suppliers constitute a huge employee base.

Through the efforts of the consortium, all of these workers have the opportunity to become more efficient, more productive, and more team-centered employees, raising the level of quality competition across the country.

Lessons Learned

Everyone involved agrees that these partnerships are vital to the economic well-being of the companies and countries involved. The results have been dramatic enough that plans are underway for a European version of the consortium. In the process, corporations—even though they had confidence that community colleges were flexible enough to keep pace with them—have been surprised to learn that college responses have often been faster than those of the corporate partners. Among the lessons learned by the consortium are:

- The consortium effort, although requiring constant maintenance and considerable give-and-take, has been worth every invested effort and dollar to date.
- Curriculum challenges are significant; the selection of the right materials to bring forward in the consortium has been as difficult as planning any college curriculum.
- Often suppliers are too small to take advantage of consortium activities because internal production or service demands keep them from stopping other activities to make time for learning. Those that do, however, come back for more because they realize a multiple return on investment.
- Where open enrollment has succeeded, it has been the result of clustering small businesses in quality consortia. Finding alternate funding sources to assist companies in paying at least part of the training costs has been critical.

Building on the success of the Supplier Training Network, companies are starting to use the colleges for more than just training services. A whole new arena of manufacturing assistance is evolving which utilizes very complex assessments, ratings of services, and planning and consulting systems that will continue to change the consortium. That is as it should be, however, for the consortium has always been a laboratory of experimentation where both colleges and corporations place ultimate faith in one another to bring the best they have to the table to keep America productive.

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Chapter 4

Delta College and General Motors Corporation

Jack Jonker

Delta College is a public, two-year institution in East Central Michigan. The college opened in 1961 and today provides comprehensive postsecondary education and training, as well as a wide variety of community services for residents of the Delta College district (Saginaw, Bay, and Midland counties—1994 population: 399,320).

Each semester, nearly 11,000 academic students enroll in 36 transfer programs, 53 associate degree programs, and 17 certificate programs. In addition, the college's Corporate Services division offers specialized training to upgrade occupational skills in the automotive retail, automotive manufacturing, and automotive supplier industries, as well as business, health, and government markets.

The college is located on a 640-acre complex in Bay County. Noted for its beautifully landscaped center garden, the campus contains miles of nature areas, an outdoor classroom, running and fitness trails, tennis courts, archery, and golf areas, as well as a covered bridge. The natural surroundings of Delta College enhance the learning process of students. The Delta College main campus site, at University Center, Michigan in Bay County, lies almost midway between the Tri-County's major cities of Saginaw (pop. 69,512), Bay City (pop. 38,936), and Midland (pop. 37,819).

Bay County adjoins the bay, an important recreational area and waterway whose ports are part of the St. Lawrence Seaway. Delta serves this community in many ways, with training and courses, as well as with its own public radio and television stations.

As a community college, Delta provides programs and services that are accessible to its constituents. To this end, Delta is committed to meeting the educational and training needs of the community for high-quality programs, and to equal access to educational opportunity through open admissions.

Delta is expanding its relationships with business, industry, and the professions, as well as with other institutions or groups where partnerships are mutually beneficial.

The college's workforce development programs and services are moving from a current mode of fee-for-service to increased emphasis on a series of societal shifts in business predicted by the Joyce Foundation of Michigan, a think tank formed to explore what the relationship between community colleges and business might be over the next 40 years.

The foundation's work has uncovered a number of trends for which Delta College must prepare a response:

- *From credentials to competencies.* Degrees will have less significance than the clusters of competencies and skills that are acquired and that can be applied to employment or further study.
- *From teaching to learning.* There will be less emphasis on what faculty know and more on what students learn and whether this is transferable to job performance and career enhancement.
- *From responsiveness to local needs to producing results.* Communities will want responsiveness to be matched with producing results. Community colleges are seen as valuable local resources that should yield a high return on the community's investment.
- *From buildings to processes.* There will be less emphasis on buildings and more on using technology to create a virtual system of learning that can be accessed from across the globe. Community colleges will bring added value through their expertise in delivering learning with technology.

More specifically, the college is preparing students for eventual participation in the employment market through programs in three major course delivery units—the academic division, the community services division, and the corporate services division.

Academic students enroll annually in such general fields of study as business and information systems; consumer, human and public services; health services; communications; humanities and social science; natural, applied, and environmental sciences; and technical and industrial programs.

At the same time, however, ensuring that credentials are portable and appropriate to a national employment market and that curricula are responsive to national skill standards is the focus of special attention, as is the development of stronger school-to-work linkages to employers through networking and employer advisory systems.

Credit-free classes for the work force offered by community services involve certification programs and business, health, technical, and liberal arts courses for retraining or avocational interest, all of which prepare students for a changing employment market.

In 1994, Delta College Corporate Services contracted to provide 665,790 training hours—delivered to 27,000

workers representing 513 companies in 20 states and 21 foreign countries—with instruction provided by 70 full-time and 225 part-time faculty.

Background/Overview

The General Motors-Delta partnership, established in 1979, was the first major corporate/educational undertaking in the country. The Corporate Services-developed technology education "experiment" evolved into the national GM Automotive Service Education Program (ASEP). Currently, five other auto manufacturers have incorporated this model into their partnership activities with colleges across the nation.

Fundamental reasons for forming this partnership included new technology transfer and the need to improve customer satisfaction. In 1979, GM introduced a technological revolution in automotive design: computer technology in the automobile engine. The corporation was well aware of the impact this revolutionary development would have on GM dealerships, the service technicians they employed, and those who serviced their vehicles in independent repair shops and large fleet repair operations.

As a result, there was concern that too many practicing technicians would not understand this new technology and, being fearful of it, leave the automotive service maintenance field. Computer-trained technicians were not yet available because the technology was just being introduced; training programs were still in their infancy. The corporation intended to provide additional training; at issue were the questions "where" and "how to do it right." The GM planning team had several proposals under review, including expanding their training centers, contracting with private training agencies, or working with the nation's community colleges. As one would expect, there were both positive and negative implications in each of these alternatives. Nonetheless, included in their final plan was a decision to establish a pilot program at Delta College in Michigan. The purpose of the pilot was to develop an experimental curriculum for training a new breed of technician capable of servicing the new generation of technology-rich automobiles.

The final curriculum design at Delta was implemented as soon as faculty were prepared to teach the new technology. The curriculum was different than most other college curricula in that all technical instruction was specifically product oriented, as opposed to general instruction. Students entering the program were employed by GM dealerships; in other words, every student began their tenure with GM on the first day of class. The curriculum was founded on the principles of tell, show, do, and practice. The practice principle was carried out in the students' sponsoring dealership and consumed one-half of the time allocated to technical instruction. The curriculum also required general education courses, and successful completion of the program met the college's associate degree requirements.

Dealer reaction to the program was so overwhelmingly positive that consideration for expanding the model geographically began within six months. Could this approach be implemented in a multicollege district? Dallas County Community College District demonstrated it could. The next location question: Could the program be implemented in a large metropolitan area? Triton College in Chicago proved this was possible. With success in all three of these environments, GM named a National College Coordinator, with the assignment of expanding the program nationally.

The ASEP project proved to be the successful test from which Delta Corporate Services was able to develop additional training for clients representing manufacturing, automotive, business, health, education, government, and the professions.

Encouraged by the college's president, Corporate Services was given the appropriate status and flexibility to operate with independence according to the business principles of the private sector. Delta College named an executive director.

While the ASEP project flourished nationwide, the college and the corporation broadened their relationship into other areas of training required by the automotive giant—from manufacturing and quality control, to new product technology education for dealers, customers, and other units of the company. Delta Corporate Service trainers began to be assigned abroad for GM's training needs in Europe, Asia, and South America.

General Motors intended to provide additional training; at issue were the questions "where" and "how to do it right."

When the college made the commitment to expand the institutional programming beyond the traditional educational offerings, a decision was made to create a separate educational delivery system to augment the current academic and community services systems.

The new system spawned the Office of Corporate Services. By intent, the operation of this system could not have any negative impact on the college's general budget—meaning this division had to be developed as a self-sufficient operation. Further contributing to the uniqueness of this concept was the creation of several philosophical foundations which would serve as guidelines for development.

- The initial markets served would be those the institution was not presently serving. Serving the

needs of business and industry to upgrade their work forces became the priority.

- There would be no attempt to duplicate course offerings or become competitive with the college's other delivery systems.
- When necessary, the Office of Corporate Services could operate outside of the policies and procedures governing the general operation of the college. With this freedom of operation, the office was developed as an extension of the president's office. Thus, he would be aware of any planned activities that would deviate from college policy.
- The instructional staff needed to be specialists, and utilized in a fashion different from the academic faculty. Hence, a different faculty system would be developed. Corporate instructors would not be eligible for tenure, would be expected to have instructional work loads different from academic faculty, must be willing to travel, and must agree to a directed professional development program. The corporate full-time staff would be 12-month employees. Part-time staff would be employed on an as-needed basis or under a separate contract with specific commitments.
- Corporate staff would be expected to bring any request for services to a planning group headed by the executive director of Corporate Services. A preemptive "no" to any request would therefore be avoided.
- Academic and Community Services instructional staff would have no automatic rights for teaching assignments in Corporate Services. Selection would be based on amount of industry experience, currency of technical information, and a willingness to teach content to GM standards.
- If a regular academic faculty member was needed and agreed to an instructional assignment, he or she would complete the assignment under a supplemental contract to the institutional employment agreement.
- It was understood that training requests would vary from typical academic schedules. Thus training would be provided where the employers wanted it, when they wanted it, and how they wanted it delivered. The content of the program would also be directed by the employers.
- The Office of Corporate Services would be designed to operate with delivery teams. All staff would be required to participate and effectively perform in a seminar entitled "Principles of Teaching and Learning."
- Any revenues in excess of expenditures would be recorded in a designated fund account. Expenditures from this account would be authorized by the president with the intent of using surplus funds for growth and development activities new to the college.

Flowing from these guidelines, the GM-Delta College training partnership has been designed to maximize the capacity of General Motors to access and deliver new technology training to its dealers, customers, and various corporate entities worldwide. As such, the General Motors partnership is consciously separated from traditional academic management. The course standards are set by industry rather than faculty experts. Course, content, and curricula adjustments reflect technological changes in GM vehicles.

Delta chose to place the GM-ASEP program in the newly created Corporate Services unit. Corporate Service's capacity to quickly respond to the customer's training proposals and GM's sincere desire to have a positive impact on public education in the United States has made for a productive marriage.

To implement the partnership with Delta College, GM made changes inside the Service Technology group that included establishing a National College Coordinator and a field staff of regional managers of college programs to provide coordinated planning and problem solving, and to seek new opportunities.

Activities and Programs

As indicated, Corporate Services is one of Delta College's three delivery systems of education and training. The charge to Corporate Services is to offset costs while expanding the delivery capabilities of the college without affecting the general fund that supports traditional college programs. As such, each training contract is priced with a view toward cost recovery and the understanding that the addition of administrative resources to support training delivery must be funded by the contract.

All the projects are initiated by a meeting with the GM customer to determine his or her requirements; a proposal is then developed. If the proposal is accepted by the company, it issues a purchase order to authorize delivery of the service. Corporate Services staff are employees of the college and receive the normal compensation package given to Delta employees. They are, however, budgeted from the designated fund, not the general fund. The staff profile for the GM automotive unit includes administrative managers, secretarial and support staff, facilities and equipment support staff, and instructional staff. Facilities include college-owned classrooms and labs, leased and rented offices, as well as classrooms and labs at various locations in and out of the college district.

Today's automotive instructors not only face the challenge of staying current with rapidly changing technology, they also are constantly striving to improve the means of communicating this technical information to the student.

There are currently two methods of program development. In the first, ASEP and dealership training materials are developed and given to the college with the required "Training the Trainer" courses. These courses are also delivered to other GM employees in engineering centers and assembly plants. The second method is for Corporate Services staff to gather information about products and systems that are in a developmental stage to use in producing course materials on emerging technologies. Equipment and training materials are often provided by the corporation, but a substantial amount of equipment is purchased by the college for training purposes.

Distinguishing Factors. Corporate Services' striking success has made it a model for other colleges and universities aiming to establish similar partnerships. Adhering to a fundamental premise that creative and collaborative thinking on the part of its staff can lead to solutions for even the most difficult assignments, the Corporate Services staff approaches all training requests with a "can do" attitude.

Other unique characteristics of Corporate Services are that every corporate activity is considered a partnership, with the corporate partners having decision-making input. Every corporate activity is managed under a team concept with appropriate corporate staff as members of the team, and every project and activity is thoroughly evaluated to the satisfaction of all parties.

At its inception in 1979, there were only two ASEP instructors. Today, there are approximately 45 staff members involved in the automotive arena, working as service instructors, administrative and support personnel, and office professionals. The instructional staff is assigned to one of several specialized instructional areas. Because each area is different, staff assignments vary. All staff are expected to travel to and from assignments as part of their employment agreement. However, such assignments are intended to be reasonable. None are intended to require extensive time away from an employee's home base.

A sampling of instructional staff responsibilities includes:

- creating and maintaining a professional atmosphere in classrooms and training laboratories consistent with the organization contracting the service;
- maintaining technical competence in the instructional discipline area in which they are employed;
- assuming responsibility for all activities relating to the instructional process. This may include classroom set-up, acquiring training manuals, and ensuring availability of training components, vehicles, and necessary tools and equipment;
- participating in the Corporate Services staff evaluation program; and
- involvement in the Corporate Services instructional quality program.

General Motors Corporation, being in the business of manufacturing and selling automobiles, continually develops new and innovative technology. GM has trained college staff and donated vehicles, training components, and literature as part of their role in the partnership. Corporate Services, in turn, uses the educational background and training expertise of its instructors to pass the technology on to the automobile service industry. In this sense, Corporate Services provides a conduit for the effective flow of technology advances. New tools, such as the electronic vibration analyzer, make it easier for technicians to diagnose problems. The advent of new technology—most notably the electronic and computerized controls in virtually every vehicle manufactured today—has caused service instructors to incorporate more information gathering resources (service bulletins, service manuals, etc.) into class instruction to help identify and repair problems. Today's automotive instructors not only face the challenge of staying current with rapidly changing technology, they also are constantly striving to improve the means of communicating this technical information to the student.

A significant focus of the GM-Corporate Services automotive alliance is meeting requirements for the automaker's engineering, testing, and research facilities. Advanced product training for engineers and experimental builders is assessed, designed, developed, and presented in an efficient and professional manner. Product training is conducted in several cities in Michigan and at various sites throughout the United States.

As advanced technology expands into domestic products, that very same technology is being increasingly exported to other countries. The GM-Corporate Services partnership is an international player with training provided in Puerto Rico, Yugoslavia, Guatemala, Nigeria, Costa Rica, Panama, Argentina, Japan, Kuwait, and the Virgin Islands. The costs of training facilities in these countries are absorbed by the employer as part of the contract for services provided by Corporate Services.

Facilities & Services. Corporate Services' world headquarters is located at the college's International Centre facility in downtown Saginaw, Michigan. The college acquired the 170,000 square-foot International Centre from the city of Saginaw on a lease-to-own agreement. Corporate Services' growth pattern through the years prompted the move of its administrative offices and training centers to off-campus sites. This gives the division the capacity to deliver customized training wherever the client needs it—whether in Michigan, Tennessee, or elsewhere.

Milford Training Center. In 1986, Corporate Services Milford Training Center was established to address needs in Southeast Michigan. Its primary objective is to provide courses tailored to meet the training needs of GM Proving Ground employees (mechanics, technicians, drivers, engineers, and others). The scope and customer base of this center are constantly expanding.

The expertise developed through the engineering and proving ground training is of particular value within the assembly plant environment. As such, courses are designed and presented for specific production models to meet the training requirements of each assembly plant. The development of manuals and documentation relating to in-process or end-of-line vehicle testing provides invaluable assistance in diagnosis and repair. This type of training upgrades workers' job skills by keeping them current with the ever-changing technology of the modern work force.

Saginaw Training Center/GM Service Technology Group. Locally, Corporate Services operates the Saginaw Training Center, which provides current GM Service Technology Group training to GM dealer technicians. This alliance designs training courses and trains instructional staff for current update classes, ranging from one to eight days long. Corporate Services also provides instructional staff to the GM Training Center in Warren, Michigan.

GM Employees/North American Operations. This area provides customized automotive/truck training courses and support services to fit the needs of the GM employees at assembly plants, engineering centers, and marketing groups.

Saturn Service Technical Training Center. Staff at Corporate Services' newest facility in Spring Hill, Tennessee, provide bumper-to-bumper instruction on the popular Saturn car and play vital roles in the training of Saturn retailer technicians.

Program Development. The program development unit provides new specialized automotive and truck training courses, as well as modified training courses, specialized training manuals, support documentation, and graphic display boards.

AutoPro Training Network. Recognizing the need for the aftermarket to have access to training, the AutoPro Training Network was established to provide all technicians the opportunity to receive training to stay competitive in the business, as well as making it possible for GM vehicle owners to receive quality service in an aftermarket service facility.

Funding

As noted previously, all Corporate Services activities are self-supporting. When a financial reserve is accumulated in the Corporate Services operation, there is discussion about whether these funds should be added to the general fund budget for college operations. The administration believes that any funding beyond an appropriate reserve should be used to fund new initiatives for the college in order to serve more of its district constituents. The determination of an appropriate reserve is often an issue of concern for the various faculty committees involved in the development of the institutional budget.

Evaluation

Evaluation of Corporate Services is customer-driven and relatively informal. Surveys and interviews following training activities are a few of the evaluative methods which may involve both trainees and employers. A strong focus on clear communication ensures that any needed adjustments will be made as appropriate.

Partnership's Impact

Because of its partnership with GM, Delta is able to access information on emerging technologies that is generally unavailable through other sources. This knowledge, in turn, is transferred to the automaker in the form of college staff trained in the latest automotive technologies. GM has prepared training courses that reflect the most current company advances in vehicle design and mechanical components. As GM trained Corporate Services staff to teach these updated courses, college faculty also benefited. The most current information on advances in vehicle technology is available, whether the training occurs at a corporate training center or in a college automotive laboratory.

GM is mindful that public education has not always had the resources to update equipment in technical training classrooms. To ensure success of the newly formed college-corporate partnership, GM provides instructor course materials, participant manuals, tools, equipment, and vehicles through an unparalleled donation program.

Corporation Benefits

ASEP graduates provide GM dealerships with technicians equipped with not only a higher education background, but also technical and customer relations skills. Each year ASEP graduates receive additional training to

maintain currency in an ever-changing industry.

The expansion of the ASEP program now allows instructors to conduct work-site training in engineering facilities, assembly plants, and at dealership technical training centers. This flexibility in offering training has made the ASEP program extremely convenient for GM and has helped to institutionalize the approach within the company.

Lessons Learned

The most significant element in the development of Corporate Services is the freedom the organization has to operate independently of conventional college policies. Typically these institutional policies and procedures are developed for programs and functions that already exist and are operational. Corporate Services systems do not easily fit into that mold, as they are new and designed to respond directly to client requirements.

The most significant element in the development of Corporate Services is the freedom the organization has to operate independently of conventional college policies.

Specialized business and industrial training requires many different formats in terms of subject matter, location of training programs, and times that programs need to be offered. General Motors prefers contracting for training rather than building training departments. An indication that this will continue is that company personnel routinely indicate how much they like doing business with the Corporate Services unit because it is so "user friendly." Significant amounts of new business training contracts have come from recommendations from satisfied clients. The key issue in developing this new business: Do not forget the processes that brought success—improve upon them.

When the decision was made to create Corporate Services, the concept was adopted without seeking the support of the academic or student services units of the college. As might have been expected, there was some concern that such services could have been offered within existing college units without adding a new dimension to the institution. That the institution might become more flexible if a new experimental delivery system was created, and that new concepts in training might be a natural fit with other programs, were ideas that took a while to gain acceptance.

Related to this was the issue of control. The chief instructional officer believed any instructional activity offered within the institution should fall under the banner of instruction. In hindsight, the resistance of some units of the college to the idea of creating the Corporate Services office raises the question of whether the way the college initiated this concept was appropriate.

Faculty development, an issue that concerns most institutions of higher education, was a major factor in creating the Corporate Services office. Quite often, faculty members believe they know training industry needs without considering the impact of new technology. The fact is that most faculty are unprepared to teach new technologies brought forward by industry without significant and directed professional development. Furthermore, the natural preference of the majority of faculty is to teach in the conceptual rather than the product-specific domain which most industries require.

The issue of awarding course credit applicable to the associate degree is an interesting one. Inasmuch as the Corporate Services unit is not under the auspices of the academic program, the coursework it offers is likely to include state-of-the-art technology unfamiliar to those who make college credit evaluations.

College credit for corporate training is one key method of recognizing the value of such training. It is not, however, the only measure of instructional quality and worth. The development of a parallel, alternative form of credentialing is an idea that should be explored.

After 10 years of operation, several unique characteristics have emerged from Delta College's Corporate Services programs. Unlike programs of many colleges, Delta Corporate Services has the autonomy to respond to any

corporate training request worldwide with partnership contracts designed to encourage long-term relationships with clients. Furthermore, training and support services are provided for organizations as diverse as General Motors, Dow Chemical and Dow Corning, Saturn Corporation, UAW/GM Human Resources, Aetna Industries—and even some United Way agencies.

Delta College Corporate Services has gained a reputation throughout the region, nation, and abroad as a significant contributor to the economic development mission of workforce readiness. And its partnership with General Motors provides an excellent example of how to successfully train in accordance with corporate expectations.

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John J. Choulochas, National College Coordinator, General Motors Service, Technology Group, contributed to this article.

Chapter 5

Foothill-De Anza Community College District and Hewlett-Packard

Lorie Prouty

The Foothill-De Anza Community College District is located in the world-renowned scientific and technological hub known as Silicon Valley. Foothill and De Anza, the district's two colleges, are actively involved in the economic development of this Northern California community, and they have played an important role in its transformation from a sleepy agricultural region covered with orchards to the vital center of technology it is today.

Within the district's boundaries are headquartered many giants of the electronics and computer industries—Apple, Tandem, Varian, Amdahl, National Semiconductor, Advanced MicroDevices, Sun Microsystems, and Hewlett-Packard. These companies are among the pioneers whose technological developments in information processing have forever changed the world. As the information age was ushered in, they experienced phenomenal growth and thousands of smaller companies sprang up around them. This area that was once known as "The Valley of Heart's Delight" suddenly became the new frontier.

Foothill and De Anza also grew in the years following the development of the integrated circuit. As Silicon Valley's population boomed, enrollments climbed dramatically. The colleges were faced with educating thousands of students beyond what the campuses were built to accommodate, and they had to meet the challenge of keeping pace with new developments as technology advanced more rapidly than at any time in history.

A New Mission for the Colleges. The initial demand for workforce development programs from Foothill and De Anza was fueled by the large influx of Southeast Asians to Silicon Valley in the 1970s and 1980s that occurred at the same time many high-technology companies were forming and growing. Thousands of immigrants who spoke little or no English were hired to perform the numerous repetitive tasks that were necessary for the production of electronics components and computers. The newcomers, with their strong work ethic and intense loyalty to employers, were key to the valley's success, but they also came with serious difficulties in reading, writing, and understanding verbal commands. As emerging technologies increasingly required that employees function in teams and perform complex job tasks, workforce training became a critical concern. Companies anxiously looked to Foothill and De Anza for instruction in English-as-a-second-language, reading, writing, math, supervision, and a broad range of technical skills. They also sought the college's help in finding graduates with the technical skills they urgently needed. In response, the district established two outreach programs, the Business & Industry Institute and the Occupational Training Institute. Other programs to assist employers were instituted in later years.

The Business & Industry Institute. A significant priority for the district when creating the Business & Industry Institute was for the office to operate as a service-oriented business. The institute provides flexible scheduling and timely response to training requests from employers. A fully-staffed office arranges for the delivery of programs and ancillary services exclusively for company employees on campus or on site, at the client's option. Courses are available for credit or not-for-credit, and customized training in nearly every field can be developed to client specifications by subject-matter experts. The office was the first of its kind in California, and has served as a model for other contract education programs developed by colleges and universities throughout the state.

In addition to providing skills assessment and job training, the institute works with employers to offer credit programs on site as an employee benefit. Thousands of workers have completed college courses without ever setting foot on the Foothill or De Anza campuses. Today, the program has more than 4,000 enrollments annually for individual classes and degree programs in subjects ranging from basic skills to business administration. Coursework is tailored to meet company objectives, and examples from the client's industry are used whenever possible. Instructors generally are chosen from the district's full-time and part-time faculty ranks, although outside consultants are hired when the required expertise is not available within the district.

The Occupational Training Institute. Since its creation in 1975, OTI's focus has been on employment training and the development of instructional programs to meet labor demands. Projects funded with public grants provide vocational skills training for the underemployed and the unemployed. Classes are taught in a simulated work environment, and frequent exposure to local industry is provided through guest speakers and facility tours.

The beneficiaries of OTI's programs are Silicon Valley employers who are able to hire from a pool of highly qualified and well-prepared workers in such fields as computer repair, graphic arts, autoCAD, facilities maintenance, medical assisting, and business office technology.

The Center for Applied Competitive Technologies. The CACT is one of twelve established in California community colleges through a grant from the state and donations of

funds and equipment from industry sponsors. The center, which has a philosophical foundation based in total quality management, uses technology transfer teams composed of center staff, faculty, technical experts, and representatives of private-sector sponsors to help small and medium-sized businesses access advanced technologies and applications that can transform their operations. Companies receive consulting and training services to foster enhanced manufacturing competitiveness domestically and internationally, and to prepare them for the "factory of the future."

The Small Business Institute. De Anza developed the Small Business Institute to provide support for newly formed small businesses and for people interested in starting a business. Training in finance, marketing and promotion, management, as well as a host of other topics, is offered through a series of modularized courses available to the community. A coordinator with small business expertise is available to direct business owners to helpful resources.

Working With An Industry Leader. Foothill and De Anza have developed ongoing relationships with many local employers, but the most significant and enduring is with Hewlett-Packard, headquartered in Palo Alto, California. HP is one of the largest and most successful corporations in the nation, employing more than 98,000 workers in sixteen countries, 15,000 of them in the San Francisco Bay area. Its founders, William Hewlett and David Packard, built the $25 billion company on a solid foundation of traditional values. Hewlett-Packard's corporate philosophy, well-known in Silicon Valley as the "HP Way," includes an intense employee orientation, job security, comprehensive benefits, unmatched opportunities for personal and professional development, and promotion from within. It is this philosophy that has provided a fertile ground for the growth of a partnership between the company and the Foothill-De Anza Community College District.

Hewlett-Packard, which produces some 22,000 products, is heavily involved in the research and development of new technologies and products. As a result of this focus, obsolescence of knowledge within the company is an ongoing concern. To stay competitive, HP spends millions of dollars annually to educate, train, and retrain workers. The colleges play a key role in providing the instruction they need, both on campus and on site. In an average academic year, more than five percent of the students enrolled at Foothill and De Anza are HP employees—a larger number than from any other employer.

Creating a "Win-Win" Partnership. The relationship between the district and Hewlett-Packard was developed and strengthened over time. Initially, the company supported the colleges by providing classroom facilities in the evenings to serve an ever-expanding student population. During the 1970s and 1980s, Foothill and De Anza regularly scheduled courses at fourteen Hewlett-Packard sites. HP benefited from this arrangement as well, since classes offered at company locations were convenient for employees to attend. The course offerings included topics that were of great interest to students already in the work force: management development, computer programming, quality assurance, accounting, speed reading, technical writing, retirement planning, electronics mathematics, and first aid.

The rapidly growing corporation also found the colleges were an excellent source for new employees, and they recruited many talented Foothill and De Anza graduates. Students familiar with Hewlett-Packard's reputation as a great place to work were eager to accept jobs there. (One De Anza alumnus they hired was Steve Wozniak, who later cofounded Apple Computer.)

Cooperation between Hewlett-Packard and the district increased over the years as both organizations found there were many areas for mutually beneficial partnering. Hewlett-Packard found needs the colleges could meet; Foothill and De Anza acquired resources from the company to do the job adequately. The relationship that developed is a shining example of "win-win." While Hewlett-Packard generously provides both colleges with equipment grants, instructor resources, faculty internships, student scholarships, funds to develop recreational facilities, support for fundraising activities, and contract education revenues, the colleges in turn offer HP a pool of graduates with job skills the company needs, state-of-the-art educational resources for employees, facilities and programs for recreation, cultural activities, and customized on-site training. In addition, the district is a consumer for many Hewlett-Packard products.

The partnership involves individuals from several areas of the company and the district. Development officers of both colleges work with HP community relations personnel in securing donations of funds and equipment and support for special projects; the academic divisions receive input for the development of new programs and updated curriculum from company personnel who sit on advisory boards; HP managers help the college's academic divisions by identifying qualified part-time instructors who can teach the latest technologies; and the district's contract education program works with human resources and training managers at the company to set up programs for employees.

There are less formal connections also. HP employees who teach part-time or are students at the colleges have sponsored equipment donations when learning of an unfilled need; they have also helped promising students obtain internships and employment at HP.

Partnerships for Training and Development

Preparing Students for Employment in High-Tech Industry. Some of the earliest collaborations between Hewlett-Packard and Foothill-De Anza included the

development of technical programs that prepared students for employment with HP and other Silicon Valley companies. Three of the district's vocational programs were developed by the Occupational Training Institute with significant input from HP personnel who served on advisory boards. In addition to assisting with curriculum development, the company helped equip laboratories for the classes. Students completing the programs had skills that were in great demand in Silicon Valley; they became immediately employable as semiconductor operators and as electronic and computer service technicians. The colleges provided Hewlett-Packard with a pool of trained graduates, and the company employed large numbers of them.

Training for Hewlett-Packard Employees. One of the most significant aspects of the multifaceted partnership between Hewlett-Packard and Foothill-De Anza is employee training. The company contracts with the colleges through the Business & Industry Institute for job skills training, retraining, and for ongoing programs that give workers an opportunity to meet educational goals. Over the last ten years, district contracts with HP have totaled nearly $1 million.

Supervisor Training for Enhanced Productivity (STEP). One of Hewlett-Packard's most extensive (and expensive) training projects began in 1987, when HP asked De Anza to partner with them in designing a skills-upgrade program for production supervisors that would help move the company toward its goal of building and operating a "factory of the future." The strategic objectives of STEP emerged from a national survey of the company's manufacturing managers who said supervisors would need to show greater initiative, be able to exercise process control, work effectively in teams, and solve problems within their units. De Anza part-time faculty, working through the Business & Industry Institute, interviewed personnel on the factory floor and met frequently with training managers and division directors as they worked to create curricula that would address the company's objectives.

The result was an intensive six-month, nineteen-unit program with a core of statistical process control (SPC) courses, and special training for team leadership, technical writing, problem solving, and presentation skills. Employees also were enrolled in the college's Cooperative Education program as a way of linking the classroom with the workplace. They attended classes nine hours per week on company time and were expected to complete an additional eighteen hours of homework on their own time. A final project was one of the program requirements: working in groups of three, students had to solve production problems in their work areas using SPC tools learned in class.

The program was piloted with fifteen supervisors who were assessed for basic skills competencies and taught study skills. Six months after instruction began, results of the projects were presented during a graduation ceremony—the problems identified and solved by the students saved the company more than $200,000 annually!

Following the pilot's glowing success, De Anza served as a resource to HP sites around the country as they set up STEP programs through other community colleges. In a three-year period, 111 supervisors completed STEP at De Anza; several hundred others were trained by colleges throughout the country.

Six months after instruction began, results of the projects were presented during a graduation ceremony—the problems identified and solved by the students saved the company more than $200,000 annually!

In addition, a modified version of STEP was offered locally for a select group of fifteen supervisors. Called ZIP (Zero In on Productivity), the program was designed to provide financial management skills as well as the core curriculum of STEP. Supervisors learned to understand balance sheets and operating statements, departmental expense reports, and other accounting data that would help them make appropriate decisions when managing projects.

Partnerships for New Careers. When shifts in Hewlett-Packard's business needs have required the redeployment of human resources, employees received the opportunity to train for higher-level jobs. In the last ten years, programs for administrative support training have been offered several times by the Business & Industry Institute for workers being promoted from production and clerical jobs. The program has been so successful locally, HP has replicated it in other areas of the country.

Following an assessment of the employees' abilities and the company's requirements, programs were designed to provide not only the appropriate skills training but the personal support students needed to succeed. Special services, such as counseling and tutoring, were made available at the class location. In addition to business English and office mathematics, students learned keyboarding, office procedures, customer service, and communication skills. The keyboarding course utilized a Vectra laboratory donated to Foothill College by HP.

Employee Skills Assessment and Basic Skills Instruction. An ongoing need at HP, as well as at most Silicon Valley companies, is basic skills instruction for production workers and support staff. In the last fifteen years, the colleges have assessed the English and math skills of more than one thousand HP employees and prescribed remedies to prepare the workers for training and retraining programs.

Basic skills instruction has been delivered for employees at several of Hewlett-Packard's sixteen Bay-area sites, with differing objectives. One large group of production workers was taught reading skills as specifications for the products they were assembling became more complex; another group learned English-as-a-second-language, basic writing, and math skills to prepare for moves to other areas of the company when the facility where they worked was closed down; several groups of clerical workers were taught writing and grammar as they retrained for higher-level administrative support positions; other workers received instruction in math to prepare them for technical training programs; and still others were given the opportunity to learn skills that would make them more promotable. In each case, the Business & Industry Institute worked with Hewlett-Packard representatives to ensure the training would meet company and employee objectives.

Hewlett-Packard had been considering leasing vacant school sites that employees could use for softball and soccer games after work hours when Foothill staff introduced the idea of having the company develop multi-use sports fields on the campus.

Hewlett-Packard After Hours and HP Ahead. In 1984, Hewlett-Packard asked Foothill College to set up a series of on-site classes that would be offered after work hours. The company wanted to assist employees in developing job-related skills, increase their awareness of other job areas, and provide opportunities for career and personal growth. The program, which began as Hewlett-Packard After Hours and is now known as HP Ahead, has included a broad range of courses. One that has been offered consistently through the years, though, is self-assessment for career planning. This class helps employees assess job skills, personality styles, and career interests so they are able to develop career goals.

Programs offered "after hours" allow employees to explore new career directions by taking introductory classes. They also become familiar with the terminology and tools used in other areas of HP. Course offerings include accounting, keyboarding, telecommunications, computer science, financial planning, sign language, and time management.

Hewlett-Packard Donations of Funds and Equipment

Cash Gifts. Hewlett-Packard often has provided financial support for college projects and programs over the years and has funded student scholarships. Recently, the company supported a fundraising event for De Anza's newly-constructed Advanced Technology Center by purchasing three tables at a cost of $15,000.

Over the years, a frequent beneficiary of the company's philanthropy has been the Euphrat Museum on De Anza's campus. This facility provides a forum for ideas about art expressed through one-of-a-kind exhibitions, publications, and events. In addition to De Anza student art shows, the museum organizes exhibitions of work by local high school students and offers art classes to elementary students in the community. In 1993, Hewlett-Packard gave $20,000 to fund an after-school art program and has helped underwrite costs for staging benefits for the Euphrat.

Equipment Grants. Hewlett-Packard has been very generous in its donation of equipment to both Foothill and De Anza. Gifts have ranged from a $750 fax machine given to De Anza's performing arts center to a $270,000 equipment grant for the Computer Information Systems program at the college.

It is not possible to calculate the total value of all equipment donations to the colleges, since records of these gifts are incomplete. The district did not have a uniform process for tracking donations until the late 1980s, so it was not always known when departments or individual faculty members were recipients of equipment. There are records for the last seven years, however, showing gifts of computers, peripherals, software, printers, and fax machines worth approximately $800,000. Two grants that were especially important to the success of college programs were used to establish computer labs.

Artificial Intelligence Lab. De Anza College successfully approached Hewlett-Packard in 1987 with a request for equipment to support an A.A. degree program in Artificial Intelligence/Cognitive Science. The program was designed to meet an industry need for individuals with skills for conducting artificial intelligence research activities. Without the gift, the college would have been unable to offer some of the courses needed to prepare students for this field.

Vectra Computer Lab. In 1988, Foothill College asked for and received a donation of ten Hewlett-Packard Vectra workstations to equip a computer lab for its extended campus. New courses specific to the equipment were developed and incorporated into an office automation certificate program. The gift made it possible for the college to provide Vectra training for HP employees and for employees of other companies using HP equipment. In addition, the lab also provided a site for training employees of local temporary agencies who were likely to receive an assignment at HP. In 1993, De Anza also was given six Vectra workstations and related equipment.

Funding for Facilities

Baseball/Soccer Fields. In 1988, Foothill College and

Hewlett-Packard began exploring the possibility of forming a partnership to provide recreational facilities for students, the company, and the community. HP had been considering leasing vacant school sites that employees could use for softball and soccer games after work hours when Foothill staff introduced the idea of having the company develop multiuse sports fields on the campus. There was an undeveloped site on the edge of the campus which was available for that use.

The company agreed to pay for developing three athletic fields at Foothill, but in exchange they wanted exclusive use of the facilities from 4 to 6 p.m. daily. This stipulation created great controversy in the district. A long debate ensued over the concept of a private entity being allowed to "reserve" facilities at a public institution. Some felt the company's use of the fields would interfere with scheduling for physical education classes; others were concerned the arrangement would set a dangerous precedent. Yet the benefit to the college seemed to far outweigh the consequences of such an agreement. Without Hewlett-Packard's investment, there would be no new fields—the land would remain as it was. In the end, the board of trustees allowed construction to proceed with a stipulation that the agreement be reviewed after a period of time.

It was initially estimated that the cost for developing the athletic fields would be $125,000. Preparing the rock-hard soil was more difficult than anticipated, however, and in the end, HP paid more than $160,000 to complete the project.

The arrangement for sharing the fields works very well; the company's use is "totally invisible," according to Foothill's president and does not in any way affect college classes scheduled for the facilities.

Other Support for the District

Identifying Part-Time Instructor Resources. Hewlett-Packard is well represented among the part-time instructor resources the district relies on to teach courses in the most current technologies. During the early 1980s, when the colleges were faced with a critical shortage of teachers for technical subjects, Hewlett-Packard approached De Anza with an offer to help establish a pool of part-time instructors by recruiting company personnel. The company publicized the need for instructors internally and asked employees to submit resumés for the colleges to screen.

The response was overwhelming; many employees welcomed the opportunity to teach in the evening. It gave them a chance to make a contribution to the community, and it provided an interesting diversion from daily responsibilities. Of those who were hired initially, many are still in the classroom. At present, nearly sixty Hewlett-Packard employees are assigned to teach classes at Foothill and De Anza on a regular basis.

Faculty Internships. Hewlett-Packard has arranged several faculty internships over the years, but there are no records documenting the number of faculty who have participated, or the nature of those internships. The following are examples of internships that were completed recently.

Three De Anza business faculty were given the opportunity to intern at Hewlett-Packard in 1993. The instructors received exposure to international business problems with the goal of incorporating what they learned into the curriculum.

One faculty member was assigned to a cross-functional team involved in developing a process for shipping parts kits to an HP plant in India, where the parts would be assembled and the finished goods sold to customers there. The instructor learned about logistics, procurement, and corporate culture. In addition to assisting the team with the project, he was able to make recommendations for improvements that resulted in a labor-hour savings for the company.

The other two instructors worked on developing an audit plan for Hewlett-Packard's freight forwarding vendors. While learning about international documentation and shipping processes, they were able to respond to a company need for process control on shipments to the HP printer factory in Spain. They developed a flow chart and step-by-step approach to auditing freight forwarding vendors.

Both De Anza and Hewlett-Packard gained from these internships. The instructors were able to enhance their curriculum with international business topics and materials and to share experiences with other faculty. The company, on the other hand, benefited from the instructors' expertise.

Impact of the Partnership

Though the partnership between Hewlett-Packard and Foothill-De Anza produces benefits for all involved, students—whether employees of the company or members of the community—gain the most. HP workers, many of whom have never been to college, are given the opportunity to earn college credit while learning needed job skills. These employees do not have to leave the work site to register for courses, buy books, or attend classes, and often programs are held during work hours.

Foothill and De Anza students attending regular on-campus programs gain from the partnership as well. Curriculum for leading-edge technologies is available partly because of input from HP personnel; part-time instructors from the company offer an industry perspective for classes in such areas as computer science, business, marketing, finance, and technical writing; students have access to equipment in computer labs donated by HP; and the playing

fields sponsored by HP are available to the community as well as Foothill students.

The colleges reap numerous benefits from the partnership also. In addition to ongoing donations of funds and equipment, many thousands of dollars in profits from training contracts HP has awarded to the Business & Industry Institute have been used to develop new programs, update equipment, and fund training and retraining programs for faculty. Committed HP personnel who participate on the colleges' advisory boards make an important contribution as well; they guide the quality and currency of the district's instructional programs.

Hewlett-Packard receives a significant return on its investment also. Not only do Foothill and De Anza produce a pool of qualified graduates from which the company can hire, but state-funded classes at the colleges help workers keep skills current or learn new job skills. Since the company reimburses employees for the cost of tuition, the savings over other local institutions of higher learning, such as Stanford, Santa Clara, or San Jose State, is significant. Hewlett-Packard also saves by contracting with the colleges for classes. Programs are of high quality and much more cost effective than training from private vendors.

Hewlett-Packard is known for its contributions to the community. Supporting the colleges reinforces that positive image. The company has received recognition locally for its work with community colleges; and in 1992, the company received the California Community Colleges Chancellor's Partnership Award for its support of Foothill-De Anza and other community colleges in the state.

Lessons Learned

Private colleges and major universities have long sought support from major corporations—they have received funding for buildings, equipment, endowed chairs, scholarships, and research projects. Only in recent years, however, have state-funded community colleges become involved in development activity. It is a new enterprise for these institutions and there has been much to learn.

A very important lesson from the partnership with Hewlett-Packard is the need for internal coordination and communication. Over the years, the company has been approached by administrators from the two colleges, as well as directors of programs and academic divisions, individual faculty members (part-time and full-time), and even students. At times, more than one person went to seek the same gift. The lack of coordination was confusing to the company, embarrassing to the colleges, and a duplication of effort; more often than not, the individual seeking the gift did not fully know how to go about getting what was needed. This approach was problematic for other reasons—gifts were rarely documented and formal acknowledgments were not always sent.

Coordination improved significantly with the establishment of development offices on each campus in the late 1980s. The district's policy now requires that requests for donations be channeled through these offices. When grants of funds or equipment are received, they are documented by the development officer, and the donors receive a letter of thanks.

One valuable lesson from the partnership with Hewlett-Packard is that requests for funds and equipment are granted more readily when it is shown that the company or its employees will ultimately benefit.

The colleges are still learning how to successfully seek donations from major companies. One valuable lesson from the partnership with Hewlett-Packard is that requests for funds and equipment are granted more readily when it is shown that the company or its employees will ultimately benefit. Successful proposals have stressed that point. This indicates the need for data to document the number of company employees who are enrolled in a given period.

From both the company's and the district's perspective, an ongoing dialogue is essential to a partnership's success. The challenge is to maintain frequent contact at many levels, not only at the top. Many of the collaborations described here began with informal conversations between an HP employee and a district staff member.

The college's academic departments need to stay in touch with company personnel who are aware of future skill needs so that new programs can be developed. In the partnership with HP, this often happened because an HP employee was sitting on a college advisory board. At other times, the need was identified through contact with the Business & Industry Institute.

College outreach programs must communicate regularly with human resources and training departments to keep them informed about services available to address workforce training needs. This has been accomplished by frequent calls to contacts throughout HP and with a periodic newsletter; however, there are still times when managers are unaware that education services can be provided to them on site.

Individuals in both organizations need to be vigilant in identifying opportunities for partnering that result in winning situations for all involved. There have been many examples of successful outcomes in the Hewlett-Packard/ Foothill-De Anza partnership. As business and education increasingly recognize the value of working together to achieve common goals, these collaborations will be commonplace.

About the author: Lorie Prouty is director of the Foothill-De Anza College Business and Industry Institute.

Chapter 6

Humber College and the Canadian Plastics Training Centre

David Weatherston

The Canadian Plastics Training Centre developed from a unique partnership, and its success can be attributed to satisfaction of a pressing industry need. Success may also be ascribed to the partners collectively coming to terms with the realities of an ever more harsh competitive environment, and a growing sense of urgency that makes concurring partners of people who might otherwise have regarded each other with suspicion.

The partnership that founded and sustains the Canadian Plastics Training Centre (CPTC) is unusual in North America in that it unites industry, labor, education, and government. What makes it even more unique is that the industry side of the partnership is not one enterprise or even one type of enterprise. The industry side is a multi-stakeholder coalition of diverse companies in the plastics sector, including materials manufacturers, equipment manufacturers, and processors.

The sectorwide initiative that the Centre undertook anticipates a major change in the way that the nation and the province work at increasing international competitiveness. Until recently, the provincial and federal governments focused their attentions on one company or group of companies at a time, but an influential report on the Canadian economy changed that. The report, by Michael Porter of Harvard University, showed government planners that their assistance was multiplied manyfold when they worked to create the conditions that let an entire sector thrive. As government thinking and programs have shifted to this type of focus, the CPTC has stood as an example of accomplishment.

The CPTC is an adjunct to Toronto's Humber College of Applied Arts & Technology. Humber College occupies several sites in the west end of the city, but its main campus is a few miles north of the international airport in the northwest corner of the city. It is the province's second largest community college, with some 11,000 students full-time and about 70,000 part-time. The college has a long-standing tradition of working with industry, and has dedicated a separate division, Business & Industry Services, to the task of training and education.

The incentive to form the CPTC emerged in 1988, when the federal government's Canadian Labour Market and Productivity Centre and the Society for the Plastics Industry of Canada (SPI) collaborated in a study of the plastics industry, with a particular focus on human resource issues. The economy was doing well then, and like most other industries, the plastics industry was facing a present and future shortfall of qualified people. Moreover, this shortfall was expected to become worse in a way that could affect the competitiveness of the industry.

In Ontario, the plastics industry is large and unusually integrated. The province is Canada's manufacturing center and a North American center for the assembly of automobiles, which are increasingly made of plastics. Ontario's plastics manufacturing sector includes:

- several major primary processors, making plastics from raw petroleum feedstock;
- the world or continental headquarters and principal facilities of two leading manufacturers of injection molding and associated robotic equipment;
- the headquarters and principal facilities of North America's leading film manufacturing equipment builder;
- 250 mold makers, who ship more than $200 million in goods per annum; and
- about 1,300 plastics processors, engaged in all aspects of the manufacture of finished products, including injection molding, extrusion, film making, and printing.

In 1993, the industry employed 59,000 people and shipped $3.7 billion dollars in materials, machinery, and molds and $8.7 billion dollars in finished products. Impressively, the industry was growing at 6.5 per cent per annum and had an historical growth rate five times that of manufacturing in general.

Background and History

The manufacture of plastic materials, plastics-forming equipment, and plastic products is a technology-intensive enterprise, but knowledge is not uniformly distributed. Plastic materials and plastic-forming equipment demand high orders of chemical, chemical engineering, mechanical, and electronic engineering skills just to get into the game, let alone succeed.

On the processing side, the picture's content changes radically. Here, there is a small skilled component and a large component of unskilled people, able to do little more than ensure that the machine is supplied with material and that finished products are removed. Exchanging molds and dies, setting up the machines, and starting and stopping production are handled by skilled setup mechanics. Many of these employees learned their skills on the job. Their lack of theoretical knowledge, however, is counterbalanced

by excellent practical skills and a rich fund of experience.

Porter's study of the Canadian economy noted that skills born of past experience, without the foundation of theoretical knowledge, tend to break down rapidly in the face of rapid technical change. The study further discovered that reliance on on-the-job experimentation is an unproductive way to troubleshoot problems—barely acceptable when production runs are long, but constraining when the focus changes to the shorter runs of just-in-time production.

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The lack of skilled labor and reliance on a small group of people with obsolescing skills put the industry at great risk with one of its largest customers, the auto industry. Automakers were driving a major transition to suppliers' use of just-in-time production, with an accompanying imperative for fast, flawless changeovers. Simultaneously, manufacturers began to insist that suppliers use statistically-based methods of quality management. Compounding the problem, the entire plastics industry was being revolutionized by a new generation of molds, machines, and engineering resins which promised new capabilities and new markets, if only companies had people on the shop floor who could take advantage of the opportunities they offered.

Unfortunately, there was no source for such people. At the upper end of the educational continuum, qualified graduates, primarily mechanical and electrical engineers, were appearing, but farther down the pipeline a serious problem existed. While there were plastics engineering technology programs in British Columbia, Alberta, and Quebec, in Ontario—where 65 percent of the Canadian plastics industry is concentrated—there was nothing.

In retrospect, the scarcity of educational programs was not surprising—providing hands-on training demands the use of current production equipment, which is expensive to buy and operate. Plastics production consumes a significant amount of power, even in a training setting. Nevertheless, hands-on training was essential to the credibility of any solution. Over the years, people in industry had become increasingly intolerant of technology graduates with insufficient practical experience. In spite of the labor shortage, managers were no longer willing to spend six months or a year augmenting a graduate technologist's theoretical understanding with enough practical understanding to make him or her a productive contributor to the firm. Entry-level workers needed to bring practical experiences with them.

With the confluence of these factors, the serious needs of the plastics industry in Ontario began to be articulated:

- new and more effective ways had to be found to provide training and education for the existing work force and new entrants;
- a new breed of machine operator was needed who would increasingly be called on to change machines from one product to another in a short production cycle, while maintaining high-quality levels and accurate statistical records; and
- practically-trained technologists and supervisors were needed who were capable of assisting qualified operators in unfamiliar areas, while performing the more sophisticated quality analysis and machine maintenance tasks.

Purpose of the Project

The Canadian Plastics Training Centre (CPTC) was formed expressly to meet these needs. Its purposes are:

- to provide a balance of practical and theoretical education that would give Ontario plastics industry employers a rapidly productive employee with a conceptual framework sufficiently robust to handle future developments in the industry;
- to provide these services in its own center and to carry those services to customer facilities when required;
- to serve the province directly while developing materials for distance education, and ultimately form the nucleus of a national center or system;
- to develop assessment standards and methods for competency-based accreditation; and
- to develop programs at advanced levels in concert with one or more universities.

Activities and Programs

The CPTC emerged from the partnership of industry, labor, education, and government as an independent ancillary operation of the college. The CPTC contributes 10 percent of its training revenue to Humber for college overhead, but is otherwise responsible for all operational expenditures including facilities, salaries, and program development costs. Financially, the CPTC operates as a completely separate entity, and can carry forward any deficits or surpluses from year to year. The industry has been enormously supportive of the Centre, providing equipment and molds on a no-cost leased basis, free materials, and cash. Although revenue has risen faster than expected, allowing the CPTC to generate a cash reserve of $500,000, half of those funds will be used this year.

Organization and Staffing. The CPTC's organizational structure is unique in the college, lying wholly outside the normal academic stream and connecting with the college's structure only at the top level. A joint steering committee represents the partnership and functions as the CPTC's board of directors. The committee includes four senior representatives from industry (two vice presidents and two general managers from major companies); four senior representatives from the provincial labor organization and larger unions, including the Ontario Federation of Labour, the Canadian Auto Workers, the United Rubber Workers, and the Communications, Energy & Paper Workers Union; and four senior representatives from the college, including the vice president of business development, a chair of manufacturing, and two faculty members.

The CPTC's director and representatives from the provincial and federal governments also sit on the committee as ex-officio members. Given the diversity of outlooks represented, it is significant that all decisions to date have been achieved by consensus.

The CPTC's director reports to the joint steering committee of the industry/labor/college partnership. The joint steering committee reports, via its co-chairs (industry and labor) to the board of governors of Humber College.

The CPTC has three major functions: marketing, program development, and service delivery. The organizational structure is very flat with cross-functional teams tasked to the principal functions:

- The curriculum design and development team includes a program coordinator, technical writer, and desktop publishing specialist. To date, the CPTC team has developed curriculum material to support six programs with over 100 discrete courses ranging from twelve to sixty-four hours.
- The program delivery team includes a program coordinator, project coordinator, production scheduler, and the CPTC director.
- The sales and marketing team includes the CPTC director, a project coordinator, and a sales account engineer.
- A fourth team is planned for standards development and assessment methods.

As with the organizational structure, the assignment of training loads is unique in the college. The CPTC relies on 40 industry experts who are available for the part-time delivery of CPTC-designed curricula. Humber College instructors are used for general subjects such as math, communications, and a limited number of technical subjects such as hydraulics or electronics. There is just one permanent faculty member, the program coordinator, who acts like an operational manager in an industrial setting, organizing the work of the industry experts and scheduling instructors, students, and the limited number of machines.

The industry experts, most of whom are employed by SPI members, represent a significant additional contribution from industry. These experts are an important aspect of the response to the credibility issue. With new entrants, it is possible to depend on instructors with less recent experience in industry, but the CPTC has discovered that experienced people, be they shop floor trainees or managers who engage the CPTC's services, react far more positively when they know that the instructor "speaks their language" and has immediate experience of the pressures that govern their lives.

In response to industry antipathy to the graduate who lacks practical skills, the CPTC is an applied learning environment. Student time is split equally between classrooms and the shop. On the shop floor, the unvarying arrangement is one machine and one instructor to four students. There are no classes of passive students watching an instructor delivering a demonstration. Instead, students are individually guided through hands-on operation of the relevant equipment. Production machine time is augmented by self-paced, computer-based instruction specific to such subject areas as injection molding and mold design.

Current Services. The CPTC has designed a series of services to upgrade the skills of existing employees and to serve new entrants to the industry. The curriculum designers have aimed at producing an employee who is more immediately productive, while at the same time possessing a broader conceptual understanding. This understanding will serve as a platform for learning new technologies as they are introduced. Students also learn the skills required to contribute to a safer and healthier workplace.

Process Operator Certificate Programs. These continuing education programs, aimed at process operators working at a semiskilled level, are offered in injection molding, blown-film processing, blow-molding processing, and pipe and profile extrusion. At the conclusion of these eight-week certificate programs, students are prepared to set up their equipment for a production run without the assistance of a specialist; run the equipment; perform routine maintenance; establish and maintain conditions required for complying with applicable health and safety legislation; and set up and maintain quality control procedures.

Continuing Education Training Programs. These are intended for those who cannot commit to longer periods of attendance or who require knowledge only in defined areas. Courses deliver theoretical and hands-on education and training ranging from the basic to the advanced. In addition to process-specific courses in injection molding, blown-film, blow-molding, and extrusion, these courses provide instruction in such areas as:

- designing molds and products for injection molding;

- understanding blueprints for equipment and products;
- understanding and troubleshooting pneumatic and hydraulic systems;
- safe handling of materials and in the operation of primary and ancillary equipment;
- creating and implementing preventive and routine maintenance programs for plastics equipment; and
- understanding programmable logic controllers (PLCs), computers, and electronics (intended as preparation for intensive product-specific training by the equipment manufacturer).

Contract Training. Contract training is a fully customizable service that is provided either at the CPTC or customer facility. Instruction is typically delivered following assessment of the students' current knowledge level. New entrant programs are provided at the process operator and technician levels.

Plastics Engineering Technician. This is a two-year, postsecondary program offered in conjunction with Humber College's School of Manufacturing. This diploma program includes a significant theoretical component intended to prepare the technician for work in any part of the industry, but also includes considerable hands-on experience. The hands-on skills are intended to make the technician a fully productive asset to the employer. Graduate technicians are expected to be able to work in engineering, quality control, research, or production departments; coordinate development of a new product from conception to regular production; and adapt quickly to new technology.

Injection Molder. Injection molder is a 36-week certificate program. The CPTC provides 32 weeks of education and training while the industry provides four weeks of work placement, ending in certified competence as a setup mechanic. This is an unusual program in so far as it is presently offered only to persons on unemployment insurance or social assistance. The graduate will emerge as a highly qualified operator able to understand and troubleshoot injection molding machines and their subsystems.

Facilities and Funding. The CPTC occupies leased premises in an industrial mall. Of the total 22,000 square feet, 16,000 square feet are devoted to machine and materials testing, and computer labs. The hands-on nature of CPTC offerings would not have been possible without the generosity of many manufacturers that have contributed machines, molds, and materials. The CPTC now has equipment valued in excess of $1 million, provided either on a no-cost lease basis, or obtained with donated cash. The materials testing lab replicates the setup of a quality-conscious plastics processor. The machine lab houses four fully functional injection molding machines of varying sizes, a film extrusion line, a blow molding machine, and a pipe extrusion line.

Three-year leases have been provided, and all major donors have committed either to renewal on the same terms or to replacing the present equipment as the technology changes. Although the scheduling of classes is a major priority, the CPTC still makes the equipment available to donor partners for customer demonstrations or production testing.

Capital investment for the facility upgrade was $250,000. The operating budget is $1.25 million per annum, and is projected to rise to $2 million over the first four years of the effort. During those four years, the CPTC will receive $1.7 million from the federal and provincial governments, contingent on the commitment of an equal sum from industry. The two governments will provide approximately 25 percent of the CPTC's operating cost over the first four years (the length of the original partnership agreement); the remaining 75 percent of the budget must come from revenue.

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The CPTC's Impact

In just two years, the CPTC has proved a major asset to the industry and to the college. To ensure that the CPTC stays on track with students, all short-term students complete evaluations at the end of their courses. With students enrolled in courses that last longer than ten weeks, students and the coordinator meet every two weeks to ensure immediate responses.

CPTC staff also make personal contact with the managers and owners who engage the CPTC's services to ensure they are satisfied. There is a high percentage of repeat customers; of 50 companies thus far served, 25 have come back or are using services on a continuing basis.

The CPTC and its success have noticeably boosted awareness of Humber College and its programs in the plastics industry. More than a dozen articles have appeared in the plastics industry press, and direct marketing information is sent to the 800 members of the SPI every six months. All the marketing information and articles have prominently discussed the roles and benefits accrued to the industry donor partners.

At a practical level, the effect of the CPTC has far exceeded expectations. Industry support has been enthusiastic. The number of students trained has doubled

over the previous year, and 80 percent of students have been current employees of production firms.

Finally, the CPTC looks able to achieve its goal of becoming self-financing by the end of the four-year agreement. The CPTC's steering committee and director are very leery of complacency. Apprenticeship and youth internship programs have yet to be established, and some of the difficulties of assessment have not yet been adequately addressed.

Lessons Learned

As noted at the outset, the CPTC was formed by an unusual partnership. The Centre's director remembers that the most difficult stages in establishing the CPTC lay in the initial negotiations. All parties were serious in their desire for the Centre, however, and they were always brought back to the table by the knowledge that their inability to come to terms could adversely affect the industry's prospects.

All participants in the project note the importance of personal contacts and of building on small successes to create an atmosphere of trust. The SPI's past president remarked that many people were suspicious of labor's motives in joining the partnership and doubted the SPI's ability to achieve anything in a reasonable time if the government got involved.

While there are still people who hold immovably adversarial attitudes, the former president notes that most people in labor and government have the same goals, all of which can be achieved by building successful companies. The key to building the CPTC partnership lay in the tactic of bringing people with disparate views together on a one-to-one basis. Small-scale meetings allowed people to discover that they shared goals. Once the first personal connections were established, the champions in each of the four areas of industry, labor, education, and government were able to expand a personal understanding into a broader-based foundation of trust. "You can't," as a former SPI president notes, "build trust between committees. You have to start with individuals."

According to a national representative for the Communication, Energy, and Paperworkers of Canada, one of the initial bridges between factions was an earlier SPI two-year project which established a training program. Although subsequent missteps eroded some of the good feeling created by that project, the collective desire to achieve success in the current project allowed the negotiators to return to the spirit of the earlier collaboration and build on it.

The general manager of ITW Plastiglide remembers that some people initially took radical positions, so a critical early step lay in finding people who were willing to do what was necessary to make the project work. Once those people were together, they concentrated on keeping the process moving, and this demanded that everyone work to understand the other side's point of view. "Once you adopt that stance," the general manager says, "you often see a validity that was not immediately apparent."

Both the SPI and the union give substantial credit for success to the Centre's independence from the college. "We and the industry people feel that we have control of the CPTC," a union leader says, "and that Humber College accepts that. That control gives us a sense of ownership we wouldn't feel if Humber was in charge. People would work on it, certainly, but we wouldn't have devoted as much time and energy to the project as we have. I don't think the donations of material and equipment would have come in if donors thought they were going to the college."

The Centre's director gives credit to the instructor strategy for the CPTC's rapid acceptance by students and the industry. By using industry experts (many of whom are made available by their employers), the CPTC maintains invaluable links to the industry's leading companies. These experts speak the language of industry, and are more closely in step with the industry and its concerns.

Many believe that a business, labor, and educational partnership is the only way to get the attention (and the funding) of government in Canada today.

The director also believes that a key reason the CPTC was able to come up to speed so quickly was that it could hire a significant number of new people with recent industry experience. Recent industry experience brings personal contacts that weigh heavily in attracting industry partnerships and in giving managers the confidence that their training investment will pay back. These contacts and the credibility that the CPTC gains by association must be kept fresh (and effective) by regular dissemination within industry of the Centre's results.

Perhaps because of the difficulties inherent in forming such a complex partnership, all the participants are proud that the Centre now runs by consensus. Many believe that a business, labor, and educational partnership is the only way to get the attention (and the funding) of government in Canada today, and that the CPTC provides an excellent model for other industries.

"It's difficult at first," says a past president of SPI, "because we haven't done it before. But if you look at what the Europeans can accomplish with their industry/labor partnerships, you realize that it's the way to go."

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Chapter 7

Johnson County Community College and Burlington Northern Railroad

Dan Radakovich, Susan Lindsay, and Bill Osborn

Johnson County is one of the eight counties that make up the greater Kansas City metropolitan area. Johnson County Community College, located in Overland Park, is a single-campus district with a spring 1995 enrollment of 15,630 credit students and an additional continuing education enrollment of over 16,000 students. The college is the largest of the 19 community colleges in Kansas.

The president of JCCC has always been an advocate for economic development as one of the main missions of a good community college. From Blackhawk College, his former campus, he brought experience with community college and industry partnerships. In fact, the success of the relationships between Blackhawk and John Deere and other companies led the college to establish the Business and Industry Institute at the JCCC campus in 1984 and to charge it with these operating goals:

- serve the educational needs of business and industry in Johnson County;
- generate revenues to offset the direct cost of the program and to generate a retained revenue stream that could be used to further assist the college; and
- promote economic development in Johnson County by working with various county governments and municipal chamber groups.

Given the variety of educational institutions, private training agencies, and national seminar companies located in the greater Kansas City area, the college knew that the success of the Business and Industry Institute would have to be built on a reputation of serving business and industry with quality programming. The college also knew that if the Institute were to be successful, JCCC developers would have to anticipate future training needs.

The college marshaled its resources to assist the institute. Its Office of Institutional Research conducted needs assessment studies on behalf of the institute, and the Television Operations and Word Production offices helped in product development. The college sought the area's best trainers and consultants, including those from its own staff. Finally, as the college worked with local chambers of commerce to attract business, and later, provided services to those businesses, it gained a reputation for serving clients with high-quality programming. By the time Burlington Northern Railroad moved its corporate headquarters to Johnson County, it had become standard practice for Johnson County Community College to approach incoming companies with its services.

Background

Burlington Northern Railroad (BN) is one of the nation's largest railroads, and an upcoming merger with Santa Fe Railroad will make it even larger. BN controls more than 25,000 miles of track in 25 states and two Canadian provinces. The railroad employs 32,000 people and is an innovative leader in the industry.

In 1985, Burlington Northern Railroad operated a 14,000 square-foot training facility in the Argentine district of Kansas City, near the rail yards. BN's former director of Technical Training learned of the services of the Johnson County Community College Business and Industry Institute and commissioned JCCC's Institutional Research office to assist him in a needs assessment for several courses he was developing for electricians and welders. As the relationship between BN and JCCC developed, BN announced plans to build a larger training facility. Initially, there was some discussion about locating the center on the JCCC campus, which was about one mile west of the BN corporate headquarters. The new facility had to be flexible, cost efficient, and considerably larger than BN's Kansas City operation. BN was looking for a good environment for students and staff, one conducive to learning, as well as a facility with some attractive financing. The idea of having a training facility on a college campus appealed to the railroad, and the college and BN began to seriously discuss the feasibility of the BN center being located on the JCCC campus.

Originally, BN wanted the college to build the facility and then lease space to them. However, college counsel advised that JCCC would lose its tax-exempt status if that were done—and would probably alienate every developer in Johnson County in the process. The college asked BN to build the facility and then donate it to the college; for a variety of reasons, the railroad could not do that. Yet, the idea was so appealing that the partners continued to pursue options. Finally, they approached the City of Overland Park about the possibility of issuing Industrial Revenue Bonds to finance the building, but were not optimistic, as the city had been reluctant to do so in the past. Because of the unique request, however, the city felt that no industrial competitive advantage would be offered and that a great deal of economic development would ensue for Overland Park and Johnson County and issued $2.9 million in revenue bonds. The partnership between the City of Overland Park, Johnson County Community College, and Burlington Northern Railroad called for a 52,000 square-foot facility to be built on the JCCC campus. Burlington Northern was to lease the

facility from the city and then sublease approximately one-third of the space to the college. The lease payments were structured to pay off the bonds in ten years, at which time the building would be deeded to Johnson County Community College. BN would be able to renew its lease on the building for three five-year periods after the college took possession.

Burlington Northern Railroad and Johnson County Community College entered into an educational operating contract in 1986 to build, maintain, and instruct students from both organizations in the Industrial Technical Center (ITC). In recognition of the benefits to both parties, JCCC and BN agreed to share initial and ongoing expenses according to each organization's use of the facility and to provide services to each other at their actual cost. The ITC was completed and occupied in January 1988. In June 1991, the partners agreed to expand the center, dividing construction costs as they had before.

Purpose of the Partnership

While it would appear natural to describe the special educational developments that would accrue from the relationship with Burlington Northern as the most important reason for its location on the JCCC campus, the real purpose of the original partnership for JCCC was primarily to encourage local economic development and to provide a new non-tax revenue stream for the college. BN wanted high-quality teaching space—a real "educational" atmosphere—to train its staff at the most reasonable cost to the corporation. JCCC was aware of the economic development opportunities for the Johnson County area and for the college, and it hoped for future educational partnerships to develop. Those hopes for true educational partnerships, as well as financial goals, have been realized. JCCC and BN, under the auspices of the National Academy of Railroad Sciences, now cooperate to offer the A.S. degree in Railroad Operations with options in Railroad Maintenance of Way, Dispatching, Conducting, and Mechanics, and an A.A.S. degree in Railroad Electronics.

Programs and Activities

There are many ways that BN and JCCC now interact, some most unique and innovative, and some that will have national impact. Both organizations started with a willingness to cooperate in promoting economic development.

Organization and Staffing. The director of Technical Training for BN supervises a staff of 42 Burlington Northern employees on the Johnson County Community College campus. These individuals are the administrators, instructors, and support staff charged with serving the educational, travel, and lodging needs of more than 8,000 BN employees who come to the campus each year. Officially, these individuals are completely separate from the JCCC staff and organization, but are viewed as campus colleagues.

The JCCC Business and Industry Institute works directly with BN on a contractual basis to supply additional personnel for course development and other necessary support services and to provide contract training on a not-for-credit basis. JCCC employed a staff of 29 who work directly for BN on this basis. These are JCCC employees who know that their jobs are contingent on continued BN funding.

In addition, BN contracts for credit instruction as well. Two cost centers, one in Railroad Operations and one in Railroad Engineering, have been established to handle that instruction. Each is directed by a program director who schedules classes under the supervision of an assistant dean who reports to the dean of instruction. The program directors work closely with program managers on the BN staff. A close communications link also exists between the BN director and the two vice presidents of the college.

The college has employed nine full-time instructors to conduct credit classes for Burlington Northern Railroad employees in welding, maintenance of way, and electronics. These instructors are JCCC employees and report to the JCCC program directors.

Facilities. JCCC and BN, in partnership with the city of Overland Park, built two projects totaling 118,655 square feet. The National Academy of Railroad Sciences occupies approximately 60 percent of the total space. The buildings and grounds are maintained by JCCC, but the costs are reimbursed by BN in proportion to its use. Moveable equipment is supplied by each partner. The lease arrangements provide BN with low-cost space and an atmosphere conducive to education and allow JCCC to construct needed space for its programs.

Burlington Northern employs a hands-on approach to training, and this is reflected throughout the center. The staff has designed and constructed many one-of-a-kind "simulators" that allow the student real-world experience while working under the guidance of highly trained instructors.

The Locomotive Engineer Training section provides the railroad with the safest, most qualified locomotive engineers in the industry. At the training center, students receive in-depth training in locomotive mechanical, electrical, and air brake systems; train handling techniques; train track dynamics; and operating rules.

The Signal Training section is responsible for developing and delivering specialized technical training for signal employees. These individuals install, maintain, and repair the devices that regulate the safe movement of rail traffic and provide protection for the public at highway crossings.

The Mechanical Training section is responsible for training craftsmen to repair and maintain diesel electric

locomotives and freight cars safely and efficiently.

The Communications Training section teaches both apprentice and journeyman electronic technicians to install, maintain, and repair BN's two-way communication devices, telecommunications, video identification, and data handling systems. The students receive instruction in a predetermined mixture of hands-on, laboratory workshop courses.

The Maintenance of Way Training section is responsible for training those employees who build, maintain, and repair the very foundation of the railroad, the right of way. Training in this area addresses the inspection, maintenance, repair, and construction of railroad bridges, buildings, and track.

In addition, the center has an administrative section that provides the clerical, scheduling, and budgeting support vital for the smooth and efficient operation of the entire training center. There is also an audiovisual section that supports and enhances the instructor's teaching capabilities by assisting in the development, production, and delivery of training material.

For years, the center has led the railroad industry in computer-based training (CBT). Coupled with extensive use of interactive video, CBT is especially appropriate for teaching the complex and highly technical skills required of railroad employees. The initial CBT effort was directed toward railroad operating rules, which had traditionally been learned by memorization. Using CBT, however, the student can concentrate in an individualized manner on the application of these rules. By presenting hypothetical situations, the student's ability to apply the meaning of the rule can be evaluated. Additionally, the CBT approach offers the prospect of expanding the entire training function to locations across the railroad.

The knowledge and skills required to serve on train crews cannot be learned entirely in the classroom. Recognizing this, the National Academy of Railroad Sciences has made a substantial investment in locomotive simulator technology to provide the hands-on experience essential to the safe operation of trains.

The engineer training classroom accommodates up to 24 students. It contains various hands-on and demonstration equipment. The dispatcher classroom accommodates up to 12 students.

The mechanical/electrical lab accommodates up to 16 students, but classes are limited to 12. The machinist lab accommodates 16 students and is equipped with a mechanical bay, a two-ton overhead hoist, two four-cylinder diesel engines, and a locomotive air brake rack.

The communication classroom/lab provides the equipment necessary to train communication electronics technicians. A special screen room that limits exposures to microwave emissions allows hands-on, two-way radio repair instruction.

The carmen training classroom accommodates 15 students. All the equipment has various defects for student inspection. One freight car truck has 71 different defects.

The signal lab is used for training both apprentice and journeymen signal maintainers. Signal equipment simulates 35 miles of automatic block signal territory. The lab also contains highway crossing and interlocking simulators.

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Simulators offer top-quality training without the cost, damage, and logistical problems of more traditional approaches to engineer training. Uniquely, simulators allow engineers to practice skills and enhance their abilities to deal with abnormal and dangerous circumstances safely and without interrupting operations.

The academy maintains six stationary and one full-motion simulator. These simulators are equipped with computer-generated image systems, the same technology used to teach military and airline pilots. Powerful graphics processors present students with realistic track configurations and lifelike scenery. Computer-generated images can be altered to show conditions such as night operations, poor visibility in bad weather, and other situations that can not be shown on conventional film or videotape.

All simulators used at BN's training facility perform just like the equipment they simulate. To accomplish that with the electrical cabinets, BN had to add a computer and a programmable controller, which provide all of the information the cabinet needs to make it think it is part of an operating locomotive.

Some may believe a simulator is second best, a replacement when the real thing is not available. BN says just the opposite is true—a simulator is better than the real thing. The GE cabinet will do everything that one in a locomotive will do and more. BN can accommodate up to 16 in this classroom; a real train can only accommodate one person. There are more than 100 faults built into the cabinet for training purposes that can be turned off or on.

In addition to the railroad programs, the Industrial Technology Center also houses JCCC's CAD, engineering, and electronics programs along with eight general purpose classrooms, offices, and the campus warehouse. As space in the Industrial Technical Center expanded, the college

also built a welding facility to provide training for BN employees. Actual track is brought to the center for repair by the welders. Once repaired, it is returned to the railroad for use on the line. This approach was again in keeping with the railroad's hands-on philosophy.

Business and Industry Institute. JCCC worked closely with BN in course development and support. Twenty-nine individuals have been employed to develop the CBT programs for the railroad. The JCCC Business and Industry Institute prides itself on meeting expressed needs from industry in its service area, and BN uses the institute as an added resource when feasible.

Economic Development. Burlington Northern Railroad expects to train 8,000 of its employees in the Overland Park facility in the 1994-95 academic year. Those students will attend 13,215 student weeks of training, which corresponds to 52,820 room nights for local hotels and motels. When travel and food costs are calculated, the economic impact for Johnson County is substantial. The Burlington Northern Technical Training Center operating budget for 1994 was over $16 million. Applying a multiplier of $2.50 for each direct dollar spent on training, the economic benefit to the area is estimated to exceed $40 million.

Credit Instruction. The first credit courses offered as part of the partnership with BN were in welding. JCCC assisted in course development and competency assessment as part of the original contract with BN. When Burlington moved to the campus, the college began to offer that training. Track welding is somewhat unique; therefore, BN sent college staff to the field to learn even more about the process. The college then offered credit instruction for BN in electronics, hydraulics, pneumatics, construction, and bridge repair.

The electronics program was developed so that students could train while at home. Students come to the JCCC campus for six weeks over an 18-month period and do the rest of the work on computers at home. They communicate daily with an instructor via modem. Fifteen individuals from all over the country have just completed the degree requirements for that program.

Associate Degree in Railroading. As Burlington Northern's business grew, it suddenly had to expand its work force to keep up with demand. The college had always wanted an entry into that job market and approached BN's director about the possibility of working together to offer a program. BN was supportive of a joint venture between the college and the railroad to expand the opportunity for railroad training and retraining and to initiate the world's first associate degree program in railroad occupations.

With BN's support, JCCC and the railroad initiated a national center for railroad training and education. This center, the National Academy of Railroad Science (NARS), provides the training stipulated in the Rail Safety Improvement Act of 1988 for engineer certification. In addition, NARS offers training in maintenance of way, train conducting, communications and customer service, signal training, dispatcher training, and mechanical training for machinists, electricians, and carmen. Individuals who are not presently employed in railroading can now gain the necessary educational credentials and secure employment with railroads. Burlington Northern has taken the lead here and has allowed the college to offer certificate and degree programs in dispatcher training, conductor training, and maintenance of way training.

Evolution into a National Partnership

Challenged by competition throughout the transportation industry, North American railroads have spent the past several decades improving their operations—responding to customers' needs, employing new technologies, and streamlining procedures. Some of the changes railroads made meant that fewer employees were needed, so hiring slowed substantially. In the last 20 years, for example, some major railroads reduced their work forces by more than 50 percent.

At the same time, many changes that railroads have made require new skills for the employees that remain. Clerks, for example, once worked largely behind the scenes, handling the paper that tracked a shipment. Today, they have been replaced by customer service representatives, who reach out to their clients and actively identify and implement improvements in service. New technology reaches into every railroad operation and requires new knowledge among installers, maintainers, and operators. Legislation and industry standards require new skills for compliance. Changes in hiring practices—for example, hiring systemwide rather than regional and seasonal maintenance of way personnel—bespeak a commitment to the full-time, permanent employee and his or her productivity.

Once flat, market share for the rail industry is expected to increase. Agreements with truck, shipping, and barge lines allow railroads to offer "seamless" transportation to their clients. Improved service and reliability make railroads a viable option for those shipping time-sensitive, fragile, or otherwise "high margin" goods. However, more business requires more railroad employees. As a vice president with one major railroad put it, "Right now, we don't have a single extra employee. We're at the limit of the business we can handle. If we ship more freight, we need more people to do the work."

The result is a complex, industrywide need for education and training. All employees need solid basic skills—reading, writing, arithmetic. New hires, conservatively estimated at 15,000 per year, must also learn general railroad operations and the technical crafts in which they will work. Existing employees must learn new procedures and technologies to stay current in their crafts.

An Associate's Degree in Railroads. To address these needs, representatives from seven Class I North American railroads and two community colleges met in the spring of 1993 at Burlington Northern Railroad's Technical Training Center on the campus of Johnson County Community College to discuss creating an associate's degree in railroad operations. The group drafted a list of competencies they would expect from graduates and reviewed a draft curriculum prepared by Johnson County Community College.

As a vice president with one major railroad put it, "Right now, we don't have a single extra employee. We're at the limit of the business we can handle. If we ship more freight, we need more people to do the work."

Over that summer, they discussed the competencies and curriculum in their organizations and met again in the fall, with three more colleges represented, to agree on final competencies and curriculum guidelines. The curriculum included four railroad-specific courses designed to address special competencies; those courses were assigned to four development teams. In the spring of 1994, the group met again to review progress, adding four more colleges, and reviewed a draft of industry certification standards and processes. The group met three more times in 1995, with more educational institutions in attendance at each meeting, to approve certification standards, affiliate with the Railroad Personnel Association, and develop informational and promotional materials. Beginning in 1996, the group will meet annually to review program implementation.

The associate degree in railroading is a two-year associate of science or associate of applied science degree that prepares the graduate for a career in railroad operations (customer service, conductor and yard crews, dispatching, locomotive engineer, maintenance of way, mechanical, signal systems, system electrical, and telecommunications). The program produces a pool of graduates from which all railroads can hire. Secondarily, it offers railroad employees opportunities to broaden and update their skills.

Curriculum Components. The curricula leading to the degree meet traditional requirements for two-year vocational/technical college programs. Nearly half of the requirements are general education courses, including composition, technical math and physics, social science, and speech. Another quarter are industry-specific courses in railroad history, operations, safety, quality, and environmental awareness, and technical career options and responsibilities. These were developed by teams of railroad experts and college educators and are supplied to colleges that offer the degree. For a general degree in railroad operations, students use the fourth semester to complete business and technical courses such as data processing, supervision, construction, and engineering.

For degrees with emphases in crafts such as dispatching, conductor service, maintenance of way, or locomotive or freight car mechanical systems, students can complete rigorous technical training, much of which is laboratory-based, at colleges equipped to offer such training. Currently, the National Academy of Railroad Sciences offers craft-specific options. Other organizations may implement them in the future.

Certification Requirements. Institutions that offer the degree may obtain industry certification for their programs. To apply for certification, an institution must have education as its principal activity, be legally authorized to operate as an educational institution, be accredited by one of the U.S. regional or Canadian provincial accrediting bodies, offer (or intend to offer) a degree program with a concentration in railroading which includes the supplied railroad-specific college courses and conforms to the curriculum requirements, demonstrate the need for associate degree graduates in its service area, and be authorized in writing to apply by the chief executive officer of the institution and a management-level director of a railroad that is a member of a certifying body. Institutions typically obtain preliminary certification for two-year periods at no fee. To obtain and maintain five-year full certification, institutions must also have offered the railroading degree program for at least two years immediately before application, remit a certification fee, complete a self-study, and host a site visit by a certification team.

Students' Options for Completing the Degree. In general, colleges offering the degree require the equivalent of one semester's residency at the degree-granting institution, but allow students to transfer remaining credits from other institutions. Therefore, a student can complete general education courses at a college that does not offer the degree, the railroad-specific courses at a college that offers the general degree but no craft-specific options, and craft-specific education and training at another institution. This flexibility allows students from various locations to earn their degrees in places and at paces that suit them.

Funding. The partnership is funded in a variety of ways, as illustrated below.

Direct Support. Burlington Northern has been instrumental in sponsoring an effort to institute the A.S. degree in Railroad Operations both at JCCC and nationally. A project manager has been retained on behalf of the National Academy to finalize the process. JCCC will sponsor a full-time director and secretary to oversee the program.

To encourage the college's effort to create a pool of A.S. candidates, the National Academy has indicated a willingness to hire a full-time instructor to teach the four railroad courses outlined in the degree. The college plans to staff that position full-time in the fall of 1995.

JCCC - NARS Cost Sharing. JCCC has commissioned the National Academy for Railroad Sciences (NARS) to

teach selected courses in railroad conducting and railroad dispatching as part of the JCCC A.S. degree in Railroad Operations. JCCC will pay NARS for these services.

JCCC expects six conductor and four dispatcher classes to be offered in 1994-95. At $500 per student week, JCCC will reimburse NARS $260,500 during the 1994-95 academic year. JCCC, for its part, will receive tuition and fees directly from the students, most of whom attend on scholarship.

Student Scholarships. Burlington Northern offers student scholarships for those students who are enrolled in the dispatcher and conductor options of JCCC's A.S. degree in Railroad Operations. These scholarships help students defray the cost of tests and exams, tuition and fees, and some of the costs associated with required off-campus training. The scholarships amount to $3,000 for each conductor student and $11,900 for each dispatcher student.

Gifts and Donations In addition to scholarships, BN makes several annual contributions to JCCC that it voluntarily remits from time to time. These include support of Cultural Education Center events, outstanding faculty awards, and the *Some Enchanted Evening* fundraising event. BN donated support for a recent bond referendum. These contributions have amounted to $21,000 this year alone.

The Future. The success of the degree program depends on railroad industry support, a pool of interested students, and top-quality education and training to bring the two together. To date, support throughout the railroad industry has been resounding. Students are attracted not only by the romance of railroading traditions but also by an industry moving quickly to the fore, an industry that can offer employment with many rewards. The curriculum and certification processes ensure colleges offering the degree meet the needs of both their clients—potential employers and potential employees. In short, everyone benefits—students, colleges, railroads—and, ultimately, the customers who ship their goods by rail.

Impact and Reflections of the Partnership

The national attention that the Johnson County Community College/Burlington Northern Railroad partnership has been given is phenomenal; not a week has gone by without some kind of inquiry or visit. The program was recognized by AACC as one of the nation's best, and in April 1995, Secretary of Labor Robert Reich referred to the partnership as a model cooperative program between education and industry. America's success in meeting the challenges of uncertain but far-reaching change will depend on how public and private sectors work together to guarantee a work force that is skilled and productive.

The local economic development impact of more than $40 million is substantial; yet, of all things associated with the partnership, this is the one area that people either take for granted or ignore altogether. Unfortunately many people view this partnership negatively and as a taxpayer subsidy to the industry. They forget that the buildings will eventually become the property of JCCC or, for that matter, that JCCC will be collecting rent in the near future on these buildings. For its part, BN gets the sense at times of dealing with a college that always has its hand out.

The development of the National Academy of Railroad Sciences offers the promise of far-reaching impact. The Academy could become a national center for railroad training, and a major source for employees for the nation's railroads. If the A.A.S. becomes a standard for employment, community colleges will benefit as major players in helping to upgrade the criteria for employment in the railroad industry.

Students are attracted not only by the romance of railroading traditions but also by an industry moving quickly to the fore.

There are several myths associated with any public/private partnership. One of the biggest myths has to be that the corporate partner has unlimited funds and that it will be willing to support any and all college projects. In truth, the company seeks the best return on investment and cost is always a factor. Another myth suggests that unlimited grants will be available to support the public/private venture, particularly if jobs are promised. There are, in reality, few opportunities for outside support of partnership ventures. A last myth suggests that all people will appreciate efforts to enhance the college by working closely with a corporation or to enhance corporate training by working closely with a college. Some people at JCCC still fear that the college has become "Choo Choo U." and suggest that the tail (the BN program) is wagging the dog. Many people at BN question any attempt to change traditional hiring practices, and many are threatened by tying employment to education.

The future, however, holds great promise for this cooperative effort. The college and the corporation have accumulated considerable experience. People have debunked the myths and know that a true partnership has to be productive for both entities—and also be cost effective. Hard work, not wishful thinking, is the key to successful partnerships. Private industry and public education must work together to allow increasing numbers of individuals to move into the economic mainstream of American life through employment tied to training. Colleges and corporations can make that happen better by working together than by working alone. The partnership between Burlington Northern Railroad and Johnson County Community College is a model of how that can be accomplished.

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Chapter 8

Kirkwood Community College and AEGON USA

Norm Nielsen

Kirkwood Community College, established in 1966, is located in Cedar Rapids, Iowa. The college serves a seven-county area with a total population of 346,315. The college was founded as part of a statewide community college system that includes 15 community college districts that provide comprehensive educational services, including the first two years of college work; vocational-technical training at the high school and postsecondary levels; job training and retraining; vocational education; high school completion programs; and continuing education opportunities.

In 29 years, Kirkwood has become the fifth largest institution of higher education in Iowa, with learning centers in each of its seven counties and an enrollment of over 10,000 students in its credit programs. The county learning centers are linked to the main campus via microwave and fiber-optic technology. The telecommunications system provides two-way audio and video-interactive instruction.

The college offers more than 100 applied science and technology and transfer programs, in addition to an extensive community/continuing education curriculum. Adult basic education and high school completion courses are provided to nearly 5,000 area residents each year.

The thirty-mile corridor between Cedar Rapids and Iowa City, home of the University of Iowa, is exhibiting remarkable economic growth. Within the area served by the college are 13,952 businesses and 674 manufacturing firms. The economy of the region is predominantly agriculture-based with a strong emphasis on grain processing, including such companies as Quaker Oats, Archer-Daniels-Midland, Genencor, Ralston Foods, Cargill, Roush Products, General Mills, and Penford Products. Added to these are heavy industrial and electronics firms such as PMX Industries, Rockwell International, Rockwell Goss, Amana Refrigeration, Cedar River Paper Company, Cedarapids, Inc., and Procter & Gamble. The remainder of the region is supported by a broad base of service industries, including insurance, education, and health care. In February 1995, the area's unemployment rate was 3 percent.

A key component contributing to the success of the college has been its partnerships with area business and industry through the efforts of Kirkwood Workplace Development Services (KWDS). KWDS is a full-service, regional delivery system for customized/contracted training, retraining, and new or expanding business development services. The program originated in 1983, formalizing the coordination and delivery of economic development programs and services on a regional basis.

The State of Iowa and its community colleges have been progressive in support of workforce training through the development of an innovative funding mechanism. With the passage of the Iowa Industrial New Jobs Training Program in 1983, businesses can finance training for new jobs by diverting funds from state withholding taxes and local property taxes. The law allows community colleges to enter into partnerships with expanding industries, as well as those needing to retrain their existing work force.

To date, Kirkwood has provided more than $42 million in training assistance for 150 businesses from this program, creating 6,253 new jobs in the area.

In addition to administering the New Jobs Training Program, Kirkwood is a key player in the economic development of the region, particularly in cooperation with Priority One. This award-winning economic development program of the Cedar Rapids Area Chamber of Commerce was created in 1986. The program gave new energy and direction to the local economy at a time when it was plagued by job losses and a sluggish recovery from the recession. Kirkwood Workplace Development Services works closely with Priority One staff in coordinating incentive packages for new or expanding industries. The New Jobs Training Program is always a part of these plans. Kirkwood's president serves on the Priority One board of directors.

Building the Partnership. Life Investors Insurance Company of America was formed in 1959 and experienced success and rapid growth from the beginning. When AGO Holding N.V. of the Netherlands, the fifth largest insurance company in Holland, purchased Life Investors, even greater growth occurred. In 1983, when AGO merged into a larger group of companies and became AEGON N.V., it joined the ranks of the ten largest insurance companies in the European Community. The company markets life and health insurance, annuities, and investment products. AEGON USA currently employs 6,140 people, with 1,195 of these in Cedar Rapids.

Life Investors and AEGON USA have a strong tradition of community involvement. Locally, AEGON is a key supporter of United Way and other not-for-profit organizations. The company has established academic scholarships at several area colleges, including Kirkwood. In addition, AEGON is a key player in Priority One.

The Kirkwood-AEGON partnership began in 1985 with contracted training through Kirkwood Workplace Development Services. Training programs have been offered at AEGON in the areas of human resources, customer service, supervisory skills, computer software,

construction technology, foreign language, cultural awareness, CPR, first aid, position analysis, organizational design, and assessment. College personnel and AEGON staff work together to identify and meet training needs as they arise. The ability of the college to offer on-site training adds convenience and a customized approach to the quality of the programming.

Contracted training is generally offered in four-hour blocks for twelve to twenty sessions, and classes are offered in the company's facilities whenever possible. Instructors are trained in adult learning techniques, focusing on facilitation, practical application, and discussion rather than lectures and examinations.

AEGON has twice taken advantage of the Iowa Industrial New Jobs Training Program. In 1985, the company added over 100 employees as a result of growth of the insurance business and acquisitions of other insurance companies. Their job training contract exceeded $1.1 million for programs such as midmanagement needs assessment, orientation, appraisals, accounting and bookkeeping, word processing, sales, service, marketing, and managerial training. In 1994, the company hired over 200 new employees and again participated in the New Jobs Training Program.

In 1992, after seven years of relationship building through regular communications and successful training agreements, Kirkwood established a credit education program at AEGON. This service has been provided for only one other industry in the Kirkwood area and required a strong commitment from both AEGON and Kirkwood staff.

Since its inception, over 200 AEGON employees have taken advantage of the on-site credit program. Employee participation is facilitated through on-site services, which include registration, academic advising, and class offerings. One or two credit classes are scheduled at AEGON each semester. The on-site class offerings change each semester, but are generally in the areas of business or insurance. Employees can work toward a degree, as approximately 80 percent of those taking Kirkwood courses do; or they can take only the classes they need to be productive in their jobs.

All AEGON staff are eligible to participate in credit courses. The company provides credit tuition reimbursement. On-site credit course content is consistent with that of the courses offered on the college campus, with the same syllabi and texts. Credit courses generally last 16 weeks, using lecture, group discussion, and written or oral evaluations.

AEGON staff provided input in the development of Kirkwood's credit insurance education program in 1990 and 1991. Together, the two organizations developed a five-year plan for course offerings in the insurance program at the AEGON facility. Those classes not available on-site are offered on the college campus or through a guided self-study program, which allows learners to view videotaped courses at their convenience.

Although the program is coordinated by KWDS, it enjoys the full cooperation of many other college departments, particularly the Business Education department and the Office of the Registrar. AEGON human resources staff have been trained to assist employees with college transfer requirements and to answer questions about Kirkwood credit education classes and degree programs.

By the spring semester of 1996, the company will receive classes via KTS, Kirkwood's microwave transmission system, which provides two-way interactive audio and video instruction. As a result, up to 28 courses could be offered on-site each semester. This telecommunications link will represent the only community college/business link for on-site instruction in the state.

As an international insurance organization, AEGON has benefited from use of Kirkwood's satellite uplink and downlink services by regularly sponsoring satellite conferences to train insurance sales representatives across the United States.

Funding. The partnership between Kirkwood Community College and AEGON USA is financially self-sustaining for the most part. College credit courses offered at the AEGON facility are billed at the college's established rate for credit tuition and fees. The additional costs associated with on-site registration services are absorbed by Kirkwood Workplace Development Services.

Workforce training is provided by KWDS on a contractual basis. Training program fees are hourly or are negotiated to meet special needs of both parties. Curriculum development costs are billed separately. As mentioned earlier, AEGON has twice qualified for Iowa Industrial New Jobs Training Program funds.

The AEGON USA Corporate Data Center

Over the years, a strong relationship between Kirkwood and AEGON developed. The strength of the relationship was based on the AEGON CEO's commitment to and support of education, training, Kirkwood, and community service. When Kirkwood launched its first major fund drive in 1990, the insurance company's CEO agreed to co-chair the $5 million campaign. The result, in addition to a successful campaign with over $6 million raised, was a fortification of the relationship between Kirkwood and AEGON.

In May 1992, in the midst of the campaign, an informal discussion between the CEOs of Kirkwood and AEGON revealed that AEGON was planning to develop a national corporate data center. The company was actively seeking a neutral site for the center in an American city without an existing AEGON presence. Together, Kirkwood and Priority

One convinced AEGON's site selection committee that the Kirkwood campus in Cedar Rapids was the ideal location for the corporate data center, despite the existing AEGON operation in the city. By building on the Kirkwood campus, the neutrality issue would be resolved, and the company could take advantage of their existing work force in the city to staff the center. In addition, there was an educational component to the center, whereby training needs of AEGON employees, Kirkwood credit students, and community business and industry staff could be met. By June of 1993, the final decision was made and announced at a Kirkwood-AEGON press conference.

The innovative aspects of the joint facility required equally innovative thinking and decision making from all involved, and a number of special arrangements.

Construction. Undoubtedly, the construction of the AEGON North America Corporate Data Center on the Kirkwood Community College campus has been the most exciting and mutually rewarding outgrowth of the Kirkwood-AEGON partnership. Kirkwood sold 3.9 acres of land to AEGON and provided easement to an additional 14 acres for the nominal fee of $1. The easement was necessary to permit construction of a 133-space parking lot to be shared by AEGON employees and Kirkwood Workplace Development Services' business and industry clients. In addition, an enclosed walkway, provided by the company, connects the facility to the college's administration building. Ownership of the property will revert to Kirkwood after 65 years or when AEGON discontinues use of the facility for computing, whichever occurs first.

The 55,000-foot Corporate Data Center is expandable to 73,000 square feet and houses the mainframe computing center for all of AEGON USA. AEGON owns the entire building, and leases 11,273 square feet to the Kirkwood Facilities Foundation for 65 years at the token fee of $100 per year. This area, which houses Kirkwood's Information Technology Center, was designed and constructed for the college. It is located on the lower level and includes computer classrooms, computer laboratories, and instructional support services.

In addition, AEGON provides Kirkwood with access to the mainframe computer for instructional purposes. The cost for this is $20,000 per year. Upon receipt, AEGON donates that amount back to the Kirkwood Foundation each year.

Kirkwood was given ample opportunities for input with the owners, architects, and contractors in relation to building design, appearance, aesthetics, landscaping, and siting. In every case, AEGON worked to ensure that the new building would be consistent with existing campus architecture.

The innovative aspects of the joint facility required equally innovative thinking and decision making from all involved, and a number of special arrangements. One example was the decision to lease Kirkwood's portion of the building to the Kirkwood Facilities Foundation rather than the college itself. An Iowa Supreme Court decision in a previous case ruled that property taxes must be paid when a community college leases space from a for-profit corporation. However, this ruling did not apply to a tax exempt charitable organization leasing space from a for-profit corporation. Thus, as a result of the cooperation of the City of Cedar Rapids and the Kirkwood Facilities Foundation, property taxes for Kirkwood's Information Technology Center were waived.

Liability was another issue that required considerable discussion. Neither partner could accept liability for the actions of the other. AEGON was concerned with the liability associated with Kirkwood students' use of the Information Technology Center. On the other hand, Kirkwood's insurance carrier could not assume liability for company employees on Kirkwood property. Finally, attorneys for both parties collaborated on an agreement whereby neither party is liable for the other.

Resource and service sharing also required special consideration. Kirkwood provides security services, lawn care, and snow removal. AEGON employees have access to the college's wellness activities, physical education facilities, library, and food services. AEGON provides the mainframe and building space for nominal costs.

The total cost to AEGON USA for the Kirkwood portion of the facility is estimated at $1,500,000. The total cost to Kirkwood for furniture and equipment was $1,000,000, which included costs for special construction; computers, printers, software, and associated installation costs; a computer server; a bridge and routers; audio and visual equipment; surge protectors; a communication controller for the AEGON mainframe; interior design consultation; and legal fees. Kirkwood's expenses were paid by revenues from the college's bookstore and the annual budget for equipment acquisition.

Personnel. The AEGON/Kirkwood partnership, which began with Kirkwood Workplace Development Services, has grown to affect every department and every student at Kirkwood.

Advisory Committees. Internally, when the college and AEGON decided to move forward with a joint facility, the Instructional Technology Council was formed to plan and design the credit instruction portion of the facility. The council consists of the college's vice president for instruction, the executive director of computer information systems, the project director for instructional technology, and faculty.

At the same time, Kirkwood personnel were asked to identify potential community partners, obtain their support, and request their participation on the Information Technology Business and Industry Advisory Committee. The committee links the facility with the entire business community and its emerging training needs. The committee provides private sector input on instruction and training design as well as equipment and software packages for the new facility. As major customers of software and hardware vendors, advisory committee members have been able to arrange discounts on items needed for the Information Technology Center. The committee remains active as a source of outside input and as a link to business and industry throughout Kirkwood's seven-county region.

Members of the Information Technology Business and Industry Advisory Committee include CEOs or their designees from American College Testing, AEGON, Kirkwood Community College, French Studios, the Grant Wood Area Education Agency, IBM, IES Industries, Rockwell International, MCI Telecommunications, Mercy Medical Center, St. Luke's Hospital, and the University of Iowa. These representatives from business, industry, health care, and education provide key leadership for the project that will help it to meet the needs of Iowa business and industry for the foreseeable future.

Staff. The manager of Instructional Computing Services is responsible for the daily operations of the Kirkwood Information Technology Center, which includes Instructional Support Services. The manager supervises two full-time and numerous part-time computer laboratory associates and a training coordinator, and reports to the executive director of Computer Information Systems. The manager also works closely with the Kirkwood Workplace Development Services division (KWDS).

The executive director of computer information systems at Kirkwood has also been very involved with this partnership, particularly during the construction of the facility. Representing the president and board of trustees, the executive director worked with attorneys to develop agreements and enlarge the understanding of each partner's role and served as the college's primary point of contact for architects, engineers, contractors, and AEGON. The executive director also worked with the project's advisory committees and KWDS to select hardware and software for Kirkwood's portion of the building and, now that the building is complete, oversees the department and the manager of instructional computing services in daily support and operation of the Information Technology Center. The executive director also works with the Information Technology Business and Industry Advisory Committee to develop and extend partnerships with hardware and software vendors.

Kirkwood Workplace Development Services (KWDS) is the primary college contact for AEGON. The director of KWDS provides general oversight for the partnership to ensure that AEGON's needs are met in a responsive manner. In addition, the director administers the Iowa Industrial New Jobs Training Program and communicates the status and progress of the partnership to the college's administrators and board of trustees.

The person responsible for day-to-day training and credit education coordination for AEGON is one of the KWDS Business and Industry program managers. The program manager's primary responsibilities with AEGON include:

- providing on-site registration and academic advising services;
- facilitating transcript evaluation and analysis;
- serving as an intermediary between students and the college registrar's office;
- coordinating the workforce development programs offered both on-site and off-site;
- assessing possibilities for expanded program offerings;
- monitoring customer satisfaction;
- representing the college on AEGON's training council; and
- linking AEGON with other programs and staff at the Kirkwood campus.

Programming. The college's credit and noncredit students are reaping the benefits of the Kirkwood-AEGON partnership, as are the faculty. While four classrooms in the center are dedicated to business and industry training and continuing education, the remainder of the building houses a computer laboratory open to all students and computer classrooms for Kirkwood's credit programs. The center has increased the college's capacity, performance, reliability, and function in the areas of computer education and training.

Credit Programming. The facility's open computer laboratory has 72 work stations, each with advanced personal computers for both credit and noncredit student use.

All computers in the Information Technology Center are equipped with the most recent version of Microsoft Office Professional, as well as several more specialized software programs for spreadsheet and database management. Operating systems include DOS, UNIX, OS400, VM, VSE, and MVS. Access to the college library's on-line catalog, electronic mail, and the Internet is also available. Hardware and software upgrades will be made as needed to provide students with the training required for today's workplace.

The Information Technology Center was designed for flexibility in meeting the changing needs of curriculum, pedagogy, and technology. A raised floor and soundproof

partitions allow for short-term or permanent reconfiguration of the facility.

The facility's two credit computer classrooms offer a total of 45 personal computers. Each accommodates 30 students; in the multimedia classroom, two students work collaboratively at each of the 15 computer stations. A projector allows the display of a student's computer screen, the instructor's desk or computer screen, or video.

Another credit classroom is dedicated to training for faculty and staff. Instructional Support Services staff, who are also housed in the Information Technology Center, assist faculty with new curriculum development using the technology available in the center.

Noncredit Programming. Four additional classrooms for business and industry training in the Information Technology Center offer a total of 47 computer stations. These contract/continuing education computer classrooms are available at any time for training delivered by Kirkwood Workplace Development Services, for rent by businesses for their computer training needs, or for training arranged by KWDS with a private vendor.

The contract/continuing education classrooms are fully equipped to meet the needs of even the most advanced industries in East Central Iowa. Audiovisual equipment includes four multisynchronous monitors that display the contents of an instructor writing pad or student computer screens, at the discretion of the instructor. The four screens can all display the same information or can be used individually.

In May 1995, when the center opened, the contract/continuing education computer classrooms were fully scheduled with classes in word processing, spreadsheets, operating systems, and database management, as well as other customized training programs. A current project includes the development of a local area network administration (LAN) training program. When noncredit courses are not fully enrolled, college faculty are welcome to participate at no cost.

The Information Technology Center, a dedicated training facility with current computer hardware and software, has made Kirkwood Workplace Development Services a full-service local, regional, and in some cases, national computer training provider in demand from clients as distant as the IBM office in Dallas, Texas.

Computer Software. Knowing that it is nearly impossible for a publicly supported institution to remain current with frequent software revisions and developments, Computer Information Services personnel expanded existing partnerships with software vendors to provide current programs for the Information Technology Center. In return for donated or discounted software in the computer classrooms and laboratories, Kirkwood Workplace Development Services became a licensed trainer for a variety of applications. This approach helps ensure that it is in the software vendors' best interests to see that the Information Technology Center is equipped with the latest versions of their programs.

One example of the facility's more innovative software programs is Group Systems, an electronic meeting software package. Group Systems allows participants to type in comments that appear on one or all of the multisynchronous monitors, visible to everyone in the group. No one knows, however, who is responsible for each comment. The software results in more open and frank discussion, an equal voice for all participants, and automatic documentation of what was said.

The manager of instructional computing services continues to seek and acquire new and innovative software applications for the Information Technology Center. Kirkwood Workplace Development Services work with the college's Computer Information Services and area businesses and industries to identify software needs and then research, select, and evaluate new applications.

Evaluation. All involved with the design, programming, and use of the AEGON Corporate Data Center and Information Technology Center on the Kirkwood campus consider it an unquestionable success benefiting students, faculty, staff, and the community. A more formal evaluation of the facility is planned to examine utilization levels and purposes and the satisfaction of credit and noncredit students, faculty, and staff. These items will be measured by surveys, turnstile counts, and comparisons of past and present class schedules.

In the future, changes in teaching methodology and effectiveness will be reviewed to assess the long-term impact of the Information Technology Center's multimedia classrooms, faculty computer training, and instructional support services. In September 1994, Kirkwood voters passed a six cent per $1,000 assessed valuation property tax levy. Beginning in fiscal year 1996, the levy will produce $600,000 in new revenue for instructional equipment annually. The timing could not have been better; faculty were provided with personal computers at nearly the same time the new services and equipment of the Information Technology Center became available to them.

Impact

The timing of the construction of the AEGON USA Corporate Data Center and Information Technology Center was ideal for Kirkwood. With the growing demand for computer training and credit classes, it was becoming increasingly difficult to schedule classrooms. In the past, noncredit training could only be offered in the evening, because computer classrooms were in continual use during the day. In the Kirkwood Information Technology Center, a minimum of 30 percent of the facility is reserved for noncredit classes.

The new facility has improved communications and

relationships within and among numerous groups. Both the external and internal advisory committees were originally formed to direct the design and function of the Information Technology Center. In addition, the formation and continued existence of the Business and Industry Advisory Committee improved the communication and involvement of the business community in the seven-county region, which in turn has improved the college's understanding of their training needs.

Over the course of the project, considerable publicity has been generated, which has lead to more innovative projects.

The construction of the AEGON USA Corporate Data Center on the Kirkwood Community College campus had a profound effect on the relationship between the two organizations. The project cemented and extended what had been a fragmented and rather limited relationship between a few departments in each organization. However, the value of these links and the influence of those successes on the creation of the construction project should not be underestimated. The quality and consistency of prior interactions over more than a decade were essential in building the trust required for a joint venture such as this.

Over the course of the project, considerable publicity has been generated, which has lead to more innovative projects. Foremost among them were an administrative mainframe sharing agreement among seven community colleges, with Kirkwood as the host site. A nutrition research center on the campus is currently under consideration by a local agribusiness firm. Overall, the greatest benefit of the partnership between AEGON and Kirkwood has been the ability of the college to offer noncredit training and credit education in computing technology to meet the demands of its region.

Lessons Learned

Since the Kirkwood-AEGON joint construction project was one of the first of its kind in the nation, there were many lessons to be learned throughout the process. The most significant of those follow.

- When working with a private sector partner, the project will proceed at a private sector pace, which will likely be faster than that to which a publicly accountable institution is accustomed. To accommodate this, Kirkwood's board of trustees entrusted the college administration with day-to-day decision making.
- Quite simply, it is important to stand firm in negotiations. The actions of a publicly supported institution are scrutinized by taxpayers. Educational values should not be compromised.
- An innovative project requires a trustworthy and responsive attorney who is willing to make decisions.
- Existing partnerships should be leveraged and all options explored. Kirkwood Community College is saving $35,000 annually in property taxes as a result of creative thinking, research, and open discussion with the City of Cedar Rapids.
- Outside input is critical. Early formation of an advisory committee and a survey of area business and industry needs and interests drove the direction of the project and garnered valuable support and attention.

The publicity generated by the facility produced opportunities for other partnerships. Some of the issues considered by the leadership of Kirkwood Community College prior to entering new agreements include:

- Is the potential partner a reputable, financially stable company with a positive community image and reputation?
- Does the proposed partnership match the needs and mission of the college?
- Is the length of the proposed commitment appropriate and reasonable?

In addition to choosing partners carefully, one must also be a good partner. To ensure a sustainable and amicable partnership, a college should commit only that which can be delivered in a quality and timely manner without compromising the needs of the students.

Looking Ahead. The AEGON Corporate Data Center and Information Technology Center is congruent with the Kirkwood Community College mission statement, which clearly articulates a commitment to serving the community by identifying community needs, providing accessible, quality education and training, and promoting opportunities for lifelong learning. The project was developed at the same time that credit and noncredit divisions at the college were grappling with computer laboratory and classroom scheduling and accessibility needs. Through cooperation and collaboration, the AEGON facility on the Kirkwood campus was identified as a vehicle for overcoming the obstacles to computer education and training. The generosity and vision of a single company have contributed to the opportunities for lifelong learning for not only their own employees, but traditional and nontraditional credit students and business and industry trainees throughout seven counties in East Central Iowa.

About the author: Norm Nielsen is president of Kirkwood Community College in Cedar Rapids, Iowa.

Chapter 9

Lane Community College and Symantec Corporation

Larry J. Warford and Dave Oatman

Lane Community College serves Lane County, a 5,000 square-mile area that stretches from the Cascade Mountains to the Pacific Ocean in west central Oregon. This largely rural area includes the cities of Eugene and Springfield and has a population of 283,000. For decades, Lane County's economy has been heavily dependent on the timber industry. Traditionally, timber jobs required little education and paid well. In the past two decades, however, the number of timber jobs has plummeted due in large part to automation, and the community has had great difficulty replacing those jobs with family-wage employment.

In an attempt to offset timber revenue losses, community and business leaders identified key industries they wanted to attract and launched vigorous recruitment efforts. The target industries were: software, high-technology, and secondary wood products. The college stepped up its commitment to economic development by establishing a new Community and Economic Development branch. The new branch had as one of its major goals to "become a major player in the economic revitalization of Lane County." Economic development officials locally and at the state level were made aware of the fact that the college wanted to be a partner that would help attract new business and industry and help expand existing ones.

This new priority for the college was welcomed by those involved in attempting to attract businesses and industries to provide family wage jobs for the thousands of timber workers and others who had been laid off during the most recent economic downturn. Lane Community College had an excellent reputation for quality programs that served dislocated workers and small businesses. This, coupled with a substantive record of providing vocational training for emerging and current workers, made the college an attractive partner.

Today, Lane Community College, one of the top-ranked community colleges in the nation, offers a comprehensive workforce training program. The college is organized to provide training for the emerging, transitional, and incumbent work forces. Departments that traditionally offered programs for the emerging work force have become involved in meeting the needs of the transitional and incumbent work forces. Units in place that specialize in working with specific aspects of workforce training, e.g. Business and Industry Services, Business Development Center, Continuing Education, and Training and Development, often work in teams with discipline departments as well as within their ranks. This teamwork and the cooperation of the many student and college support programs has made the college a key player in the development of the economy in Lane County, Oregon.

Background, History, and Key Players

Symantec Corporation is a leading software company with award-winning application and system software for Windows, DOS, Macintosh, and OS/2 computer systems. Founded in 1982, Symantec has grown rapidly through the success of its own products and through a series of seventeen acquisitions that have resulted in a broad line of business and productivity solutions. The company has several enterprisewide products that have been introduced recently and others that are under development.

Symantec's acquisitions have strongly influenced the company's already innovative organization. The company is organized into several product groups that are devoted to product marketing, engineering, technical support, quality assurance, and documentation. Finance, sales, and marketing are centralized at the corporate headquarters in Cupertino, California.

Symantec has been a public company since 1989, and in fiscal 1994 posted revenues of $267 million. Fortune Magazine ranked Symantec the 37th fastest growing U.S. company in 1992. Symantec products include the popular families of Norton and ACT! software packages.

In 1992, the company wanted to consolidate four of its five technical support operations in one new location. The company was seeking an available and skilled work force, plus a first-rate source of start-up and ongoing training.

Symantec began its search for a relocation site with a list of 19 cities, eventually narrowing it to two: Eugene/Springfield in Lane County, Oregon, and Colorado Springs, Colorado. Representatives of the California-based Symantec Corporation began making inquiries about the Lane County area, and a partnership began to develop. Ultimately the partnership would include not only Symantec and Lane, but also the Eugene/Springfield Metropolitan Partnership, a private nonprofit corporation that leads local economic development efforts, and the Oregon Economic Development Department (OEDD), which provides financial incentives and other assistance to relocating companies.

In fact, the partnership can be traced back to

Symantec's initial contact with the OEDD. The OEDD contacted the Metro Partnership as part of its usual protocol, and the Metro Partnership, in turn, contacted LCC. Workforce training was a main point in Symantec's relocation criteria.

In October 1992, representatives from the Eugene/Springfield Metropolitan Partnership, the Oregon Economic Development Department, and Lane Community College visited Symantec in Cupertino, California, to assess Symantec's needs and to outline what Lane County and Lane Community College could offer. This included an assessment of Symantec's training needs and an outline of the customized training the college could develop and provide.

As the deadline for Symantec's relocation decision neared, Colorado Springs appeared to be the winner; however, Symantec's planning team was instructed to make one more visit to Lane County—specifically to look at Lane Community College's training capacity.

That visit turned the tide. Lane County was selected, and Lane Community College went into action. The move was announced in late April 1993. Within eight weeks, Lane Community College began training Symantec's first 40 new employees using special training custom-developed for Symantec.

The fast response and successful service delivery were made possible by an internal partnership of several college departments. The Business and Industry Services department acted as liaison with Symantec and coordinated curriculum development. The Computer Information Technology department helped with instruction, the Electronics department built computers, and Campus Services wired and equipped a new computer lab to add to the six existing labs that would be used in the Symantec training.

As the deadline for Symantec's relocation decision neared, Colorado Springs appeared to be the winner; however, Symantec's planning team was instructed to make one more visit to Lane County—specifically to look at Lane Community College's training capacity.

By the end of the summer, the college had trained 130 new Symantec employees, including 90 in technical product support and 40 in customer service. Technical training included advanced DOS and memory management, local area networks, and Windows design and use. During the peak of the training, 105 personal computers were in use. The training was provided with $138,000 from the Oregon Economic Development Department, $71,000 from Symantec, and in-kind contributions of staff time and college resources from Lane Community College. Under the terms of the grant, Symantec was required to provide matching funds of at least 51 percent of the amount requested; the company far exceeded that amount with employee/trainee wages, staff time, and equipment.

Purpose of the Project

The Symantec/Lane Community College partnership was designed with several objectives in mind: to train Symantec employees quickly and thoroughly so that the company could move into the Eugene area smoothly and with no gap in service; to allow LCC to prove that this type of project was within the realm of possibility; to provide start-up training for a new company locating in the area (thus demonstrating to potential businesses, and to new and existing companies that LCC is a viable source of workforce training); and to establish LCC as an integral part of the package used to attract new companies to the area.

Organization and Staffing. The Director of Business and Industry Services for Lane Community College was in charge of the training project and was involved in the partnership from the beginning as part of a group of individuals who flew to Symantec headquarters early in the project to coordinate the curriculum and discuss specific details of the project.

The Business and Industry Services director worked with the directors of the participating departments within LCC to organize college resources. The departments involved were Computer Information Technology, the Electronics department, and Campus Services. About a dozen trainers participated in the project. Some trainers came from LCC faculty, but the majority were from outside the college community. The trainers were responsible for the first two weeks of education during which the trainees were instructed in general computer applications of DOS, Windows, and Novell Network software.

For the next six weeks of training, the trainees were handed over to Symantec trainers who focused on specific Symantec products. Throughout the training, instructors, LCC department directors, and Symantec officials met regularly to evaluate the progress of the training and the success of the teaching methods.

Overall program. The partnership began as a result of Symantec's move to Eugene and the company's need to hire and train a new work force in a short period of time. Initially, 95 product support technicians and 50 customer

service representatives were to be hired and trained. Lane was advised that Symantec wanted to be able to shut down operations in California on a Friday afternoon, and then restart operations in Oregon the following Monday. Symantec already had in-house training in place for much of their customer service training. However, they had never hired and trained a large group of technical product support staff at one time. Their previous experience in this arena had been to hire and train new employees in small groups of one to three people at a time.

Recognizing these potential constraints, Symantec and Lane decided to focus on the training needs of the technical support staff. Lane provided assistance in assessing the start-up training needs, designing the training curriculum, providing facilities and equipment, and acquiring funding from the Oregon Economic Development Department to finance part of the training costs. All of this occurred within a short period; essentially, Lane had only about eight weeks to design the program, build and coordinate facilities, and be ready for trainees.

Significantly, no commercial training products were used in the course of the partnership. The training methods were all totally customized, created exclusively for this project.

Fortuitously, Symantec had planned its move to take place over the summer. Because Lane was not in regular session but on a reduced summer schedule, more staff time was available to be committed to the project and more facilities were available for dedication to the training.

Symantec identified a broad training goal that the technical product support staff would have a consistent set of core skills in the areas of DOS software, Windows software, and Novell Network operations. Symantec managers had observed that many people coming into the work force had acquired their computer software expertise via a wide variety of learning methods. This included persons who had participated in formal schooling programs and others who were self-taught and had picked up skills from different sources over time. It was important to Symantec that the new work force have a consistency of core skills prior to going on to Symantec product-specific training. Thus, the focus of the training provided by Lane was in the areas of advanced functions and designs for DOS, Windows, and Novell Networks.

In order to assess more specific training needs and desired outcomes, Lane hired a project coordinator with expertise in computer software curriculum and design. The coordinator was sent to Symantec's headquarters in California and spent several days working with their staff to flush out specific training needs. Subsequent meetings via telephone and information exchanges via fax were conducted to continue the needs assessment process. The intent was to zero in on and identify the core skills that employees would need to do their jobs. This assessment process provided the foundation from which the training curriculum was developed. As the curriculum was being developed, Lane and Symantec staff met regularly to further fine tune and direct the outcome of the initial product.

The resulting customized curriculum was an eighty-contact-hour training program for core skills in advanced applications of DOS, Windows, and Novell Networks to be delivered in a two-week period of time, eight hours per day, Monday through Friday. Symantec hired their new work force in groups of 15-25 persons at a time, with a new group starting training every two weeks. The training began in mid-July and continued into September. Trainers were hired from Lane's Computer Information Technology department and from the local community pool of private training consultants. Most came from outside the college's regular staff. The first two weeks of training involved lecture and hands-on experience with a PC. After Symantec's new hires finished their two weeks of core training, they participated in six weeks of Symantec product-specific training, taught by Symantec staff.

Significantly, no commercial training products were used in the course of the partnership. The training methods were all totally customized, created exclusively for this project. The highly technical nature and very specific desired outcome of the project precluded the use of general purpose training tools.

Although the training program was designed to fit into a specific time frame, the college and the company have continued to conduct regular and ongoing needs assessments, and an atmosphere of open communication has been established. Key players meet roughly every other month. In a recent example of the benefits of such ongoing communication, Symantec and Lane worked to organize an on-site training program to educate current employees in the latest software offerings, including the Microsoft Office collection of software. Twelve training workshops were conducted, with training provided to more than 200 workers. The workshops took place from May through August 1995.

Facilities. In order to deliver the training for Symantec, Lane needed to build a new computer training lab with 25 individual PC stations. Only six weeks existed to accomplish this task. While the Business and Industry Services department coordinated the training project effort, resources of the whole institution were drawn upon to meet the challenges of this project and partnership. The new

computers were built, assembled, configured, and set up by Lane's Electronics department. The college's Campus Services installed all of the electrical wiring, phone lines, and network cabling. Two other specialized computer labs were set up using existing college computers and Symantec equipment.

Most of Symantec's technical product support with its customers happens over the telephone. As such, these labs required thirty telephone lines (fifteen in each lab) to be specially wired to allow for the on-the-job training part of the curriculum. (Symantec's phone bill while in Lane facilities for two months was more than $7,500).

Initially, plans called for hiring and training approximately 100 staff. To date, Symantec employs almost 400 people in their Eugene office. Funds from the training project supported the training for 134 staff initially hired by Symantec. All of these jobs were newly created jobs that did not previously exist in Eugene or in the state of Oregon.

Two other custom computer labs were set up for the project, and four more already-existing campus computer labs were utilized on a daily basis during the two-and-a-half months that most of the training took place. During the peak of training, Lane had nine computer labs with 120 personal computers dedicated to the Symantec start-up training project. All this took a tremendous amount of cooperation and extra effort among many departments of the college. Given the short period of time available to organize and implement the project, staff had to be willing to put in extra effort to pull this project off successfully. There was a significant sense of team and community that prevailed among the different departments of the college. The staff wanted Lane to be successful in doing this project, and dedicated their time and effort to making the training go well.

Funding. Funding for the project came from three sources, the state of Oregon, Symantec, and Lane Community College. State funding was obtained with the assistance of the Oregon Economic Development Department. Grants were written to gain funding from Oregon State Lottery monies through a Targeted Training Fund. This money was used to pay staff and to purchase training materials and equipment, including the new lab. The money came with the stipulation that the computers built with lottery money be used for business and industry training. (When the lab on main campus was no longer needed, it was dismantled and the computers moved to the Lane Community College Downtown Eugene campus and the LCC mobile lab, both of which are primarily dedicated to workforce training.)

Lottery revenues in Oregon are dedicated to economic development. To qualify for funding a community college must submit a grant on behalf of a company; in this case LCC and a representative of the Oregon Economic Development Department drafted the grant application for Symantec. The grant requires that the program address the criteria set forth by law to determine program eligibility.

One of the criteria stipulates that the program be related to the creation of new jobs. When Symantec consolidated its technical support, customer service, and order processing divisions in Eugene the company moved with a small central staff of about 15 people. The rest of their staffing was done with new hires. Initially, plans called for hiring and training approximately 100 staff. To date, Symantec employs almost 400 people in their Eugene office. Funds from the training project supported the training for 134 staff initially hired by Symantec. All of these jobs were newly created jobs that did not previously exist in Eugene, or in the state of Oregon.

Another stipulation was that the training program be designed in cooperation with the company (Symantec) and the training process be directly related to the hiring and retention of employees with family-wage level jobs. The Symantec training program was designed specifically to assist the company in its relocation and would not have occurred otherwise. From the beginning, Lane worked in cooperation with Symantec to design the program. All training occurred after employees were hired, and practically all of the trainees have stayed with the company.

In addition, the training partners had to demonstrate economic gain for the state as a whole. The more than 400 new jobs that have been created as the result of Symantec's move to Eugene clearly have resulted in an economic gain for Oregon.

Evaluation. Evaluation of the training was conducted on an ongoing basis so that adjustments and refinements in the training process could be made as the project was underway. Feedback was collected from all employee participants, and regular debriefings were held between the Lane and Symantec trainers. The participants and Symantec staff rated the quality of the training very highly in terms of meeting their skill-building and start-up operation needs. In addition, Symantec managers supervised the training sessions to provide constant evaluation. After completing the training program, the trainees made the transition to on-the-job employees. Their superior job performance has provided the ultimate evaluation of the program's success.

As a result of the training program developed with Symantec, Lane was one of four community colleges in the United States to receive recognition with the American Association of Community Colleges/IBM Business/ Industry Partnership Award.

Ultimately, LCC's responsiveness to Symantec was one of the clinchers in Symantec's decision to locate in Eugene.

One of Symantec's senior managers assigned to the project provided the following summary of the training program: "In the fall of 1992, Symantec began the search for a new location for our customer support division, and initially investigated a total of 19 cities nationwide. One of our main criteria was a community's ability to provide superior and first-rate training for the work force we anticipated hiring. Lane Community College not only met this requirement but far exceeded our expectations. The professionalism of the LCC staff, coupled with staff flexibility and responsiveness to Symantec's ever changing needs, makes it clear that our decision to relocate to Eugene, Oregon was the correct one."

Impact of the Partnership

All parties agree that the partnership was a win-win situation for everyone involved. The community gained more than 400 jobs and stands to gain even more. The company's move created a new payroll, and the employees are paying state income tax. The company's presence has created an economic demand for many other services needed to support a business such as telephone operations, banking, insurance, and others. The company has substantially added to the software industry base in Oregon. Symantec's presence and the training it received from Lane was cited in the discussion to attract another high-technology company to Oregon, Sony Disk Manufacturing Inc. Prior to making their decision to locate a facility in the area, Sony representatives spoke with Symantec management about Oregon and the quality of services provided to them in their start-up operations. The state had established a track record with Symantec to which it was able to refer in its effort to attract Sony.

Symantec has highly trained technical support and customer service staffs, and received specialized training for these employees in record time. The company also has a system in place for its continuing training needs. Symantec officials have repeatedly and publicly praised the college. They were impressed that a community college was able to deliver so much so fast. Once the company made its decision to move to Eugene, office space was leased in downtown Eugene. The downtown Eugene area, like many downtowns across the country, has been in a steady decline for years with businesses moving to shopping malls on the fringes of city limits. The selection of downtown offices by Symantec added some life to downtown Eugene and renewed hope for the future.

The Metropolitan Partnership had a major success and established momentum by attracting Symantec. The Executive Director of the Eugene/Springfield Metro Partnership credits LCC for the responsiveness and efficiency of their organization. "Education is always at the top of our list of benefits of the community to prospective incoming companies. Symantec and LCC was a logical partnership. We gave them (Symantec officials) information about LCC on their first visit. We took company representatives to the main campus—they liked that LCC was willing to tailor a program to fit their needs. Ultimately, LCC's responsiveness to Symantec was one of the clinchers in Symantec's decision to locate in Eugene. The success of the program validates what we've always discussed with companies about the educational resources available in Lane County, and gives us a concrete example to point to as we work with businesses in the future."

The college demonstrated its capacity to provide needed technical training. College faculty and staff had valuable experience and exposure to state-of-the-art technology, which will benefit other students at the college. The college also received more tangible benefits, including a new computer lab and software.

Sony Corporation announced plans to build a new optical disk manufacturing center in Lane County, and initially will employ 300 workers in family-wage jobs. Sony officials acknowledged they were influenced by Lane Community College's successful partnership with Symantec.

The staff's familiarity with high technology—a result of Symantec training and the college's expanded computer capabilities—has enabled Lane to offer new computer classes. In the spring of 1995, the college offered its first ever Novell certification training and promptly filled all 15 student slots. The training would not have been possible without the development of technology necessary for the Symantec training. The training program positioned the college to expand high-tech training and thus generate revenue, invest in more software, and continue to develop

its programs. The college has also created a new associate degree for end-user support as a result of its interaction with Symantec.

The story does not end with Symantec. On January 18, 1994, the Sony Corporation announced plans to build a new optical disk manufacturing center in Lane County, which initially will employ 300 workers in family-wage jobs. Sony officials acknowledged they were influenced by Lane Community College's successful partnership with Symantec. The college will train Sony's new employees.

Local and state officials are ecstatic. Together, Symantec and Sony will create the critical mass needed to secure a place on the "high-tech map" for Lane County. At a Sony press conference, Oregon Governor Barbara Roberts said, "I'd like to give you a sense of what kind of partnership it took to make today's announcement possible. Sony must have a work force ready to meet its sophisticated training needs. One of the major reasons that Sony selected the Springfield site was the high-end training that Lane Community College is prepared to offer to the workers and to that corporation. . .The state economic development corporation has worked actively with Lane Community College in recent weeks to develop the specialized training for Sony."

In May of 1995, Lane Community College placed a bond levy measure on the local ballot. Symantec donated a considerable sum in support of the levy as a gesture of ongoing support of the college. The levy passed.

Lessons Learned

As a newcomer to the area, Symantec was establishing a start-up operation; therefore, there was no history of partnership between the company and the college prior to the training program. A working relationship was formed in a short space of time and the college was able to create a customized program designed after establishing the needs of the company. The company's needs were not tailored to fit existing programs, but rather a whole new program was created to meet Symantec's specific needs.

"Before [the partnership] when I thought of a higher educational environment I didn't think of efficiency. The flexibility, creativity, and speed on LCC's part I did not expect. We had strong success," says Symantec's vice president of services. "The only thing I would change is to continue the program, not stop it. We now have ongoing needs—and while we have been in constant contact with LCC, in reality it would have been better to continue the training program. We had problems along the way, logistical problems, but that's all. I was amazed how quickly we were able to dig ourselves out of difficult spots. Partnering between LCC and local business and economic officials—we received a level of cooperation I don't think we would have gotten elsewhere.

"In regard to the local economy, the economic situation is a big part of people's attitudes towards help. People are willing to fight together to get out of that hole. Two years ago, we hired 125 people. Since then we've taken a total of about 400 out of the market. Now we need to set up a training program that finds a balance between a one-week program and a two to four-year program."

As for the college, training project coordinators reflect with pride that the staff of the college can really pull together to succeed with a big project. Coordinators were impressed with what the departments could do in such a short period of time—like Campus Services wiring in 30 phone lines and the Electronics department building 25 computers.

The company's needs were not tailored to fit existing programs, but rather a whole new program was created to meet Symantec's specific needs.

The coordinators found that "in designing training programs you really need to be flexible to meet everchanging demands. And even though this was a demanding project and a lot of hard work, it was fun. We had fun doing it."

The coordinators also noted that the project caused some natural displacement, and that colleagues accustomed to more frequent access to people closely involved in the project had to make some adjustments. Some of their more traditional peers were wary of this new and different undertaking of the college. In hindsight, it may have been worthwhile to have provided more frequent updates to campus staff, and to have had more communication aimed at fostering understanding of the project.

Finally, project coordinators observed that the most important aspect of the project's success was the full backing and understanding of college administration. It would have been much more difficult, they say, had administration not been so supportive. "There has to be full institutional commitment for a community college to enter this arena and be successful."

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Chapter 10

Monroe Community College and Eastman Kodak Company

Peter A. Spina, W. Gary McGuire, and Richard A. Roth

Monroe Community College was founded in 1961 in Rochester, NY, as part of a statewide system of two-year institutions designed to provide technical, paraprofessional, and university-parallel education. Since the college's first class of 720 students, credit enrollment has increased steadily to over 14,000 in 1994. Today, MCC is one of 30 community colleges within the State University of New York and is sixth in the nation in the number of associate degrees awarded.

Throughout the college's 34 years, the community has consistently looked to MCC to fill gaps, accept challenges, and solve problems through education. In its mission statement, MCC commits itself to economic development and partnership building. In keeping with its mission and in response to community expectations, the college develops new programs to meet the varied needs of a wide range of area residents and employers. To do so, the college often taps the synergy of innovative partnerships for the advancement of Monroe County and its 714,000 residents.

Since its founding, MCC has been active in providing workforce training and development programs for the Rochester area. In developing Monroe County's employment base, MCC's strategies have included traditional, credit-bearing career programs, specialized programs for target populations, and a significant number of custom-designed courses for business and industrial clients. Educational initiatives such as Temporary Assistance for Student Careers (TASC), Dislocated Workers, and Skills Training for Academic Growth and Employment (STAGE) help social-service recipients prepare for employment, laid-off workers retrain for new careers, and citizens without high school diplomas prepare for work or further education. MCC has worked with hundreds of organizations to develop specialized training programs, from 3M Corporation and Bausch and Lomb, to Citibank and Marriott Corporation, to the American Red Cross and the local Industrial Management Council.

MCC became a leader in the development of industrial training programs in New York during the 1980s when the state provided financial assistance to community colleges for each full-time equivalent student (FTE) enrolled in custom-designed noncredit courses contracted for by industrial clients. When New York State removed state funding for contract-training programs, MCC's involvement in this area diminished because smaller companies were unable to bear the full cost of unsubsidized training programs. However, the college remained committed to providing corporate services.

In 1994, the college reorganized what was a corporate and community services department into a workforce development and continuing education division with the express purpose of developing and rejuvenating its connections to the business and industry community. Written by its staff in December 1994, the mission statement of this new division is:

> We are committed to providing quality, customized training and educational opportunities and resources which meet the diverse learning needs of business, industry, government, and the community. Customer satisfaction and the economic development of our community are our highest priorities.

At that point in time, the Workforce Development and Continuing Education Division consisted of the departments of Corporate Services, providing custom-designed training and professional development programs; the Automotive Services Institute, providing training to automotive technicians and related personnel; the Public Safety Training Center, providing continuing education programs to public safety, emergency services personnel, and hazardous materials and industrial safety training for business and industry; and the Community Education Program, providing noncredit, avocational courses to the Rochester community.

The MCC/Kodak Relationship

Monroe Community College and Eastman Kodak Company have been linked since the college's inception in 1962. During the 1980s and into the 1990s, MCC strengthened its Corporate Services program, and the Kodak/MCC partnership grew. MCC became a significant source of custom-designed training and professional development programs for Kodak employees. The activity in this area became so substantial that in 1992, a dedicated alliance was formed between the college and Kodak. Kodak has always hired and continues to hire MCC graduates from the college's degree program, and the company has engaged the college in providing an assortment of noncredit courses in quality methods and processes to its suppliers as well.

Purpose of the Program

The Consortium for Supplier Training (CST) is a significant aspect of the Kodak/MCC relationship. The CST grew out of the efforts of a group of companies, including Motorola, Digital Equipment, Boeing, Xerox Corporation—and eventually Eastman Kodak Company—to share resources and develop a nationwide network of community college-based supplier training centers. Through this

network, consortium members sponsor individual community colleges and orient them to specific company-developed training programs. The colleges then deliver the training programs on a national basis to suppliers of consortium members. The CST envisions a world-class training system that accelerates supplier learning and improves performance for competitive advantage. The CST mission statement reads:

> As representatives of quality focused, global companies, headquartered in North America, our mission is to provide knowledge and methodology to our suppliers which will enhance the quality of our products and achieve customer satisfaction.

Obviously, one of the CST's major tenets is that companies wishing to build quality products must ensure that their suppliers do so as well. Therefore, many companies have formed close alliances with their suppliers to help them adopt TQM practices. The consortium members decided that asking the suppliers they shared to adopt different TQM processes for each company would be unnecessary if the consortium agreed upon certain common TQM practices. Therefore, the consortium concentrates on establishing standard courses, making it easier for common suppliers to adopt TQM.

Many of the member companies have hundreds, if not thousands, of suppliers nationwide. Delivering TQM training to these suppliers would be logistically and financially difficult if not for the existence of this nationwide community college network which the founding consortium members readily saw as an effective delivery system.

The CST enlisted community colleges because of their business, industry, and community orientations, and their accessibility and affordability. Community colleges typically provide a "user-friendly" environment to employees who might not have previous college experience. Through the consortium, companies can readily share courses: Kodak suppliers can enroll in training courses installed by Motorola as well as those courses installed by Kodak.

The CST now consists of Bayer Corporation, Chrysler Corporation, Eastman Kodak Company, Motorola, SEMATECH, Texaco, Texas Instruments, and Xerox Corporation. Xerox initially enrolled Monroe Community College in the consortium in 1992. In 1993, Kodak joined Xerox in joint sponsorship of MCC. Now, the two companies, Xerox and Kodak, jointly sponsor the college as a formally recognized Supplier Training Center (STC), among a growing network of STCs within the CST.

Activities and Programs of the Partnership

The selection of MCC as a Supplier Training Center was dependent upon the recommendation of both Xerox and Eastman Kodak. Both corporations visited the MCC campuses and validated that MCC met certain specifications as a Supplier Training Center. These specifications include a focus on industrial outreach and continuing education; administrative support and enthusiasm for the supplier training concept; an affordable tuition structure; a qualified and certifiable instructor pool with practical industrial experience; the capability of delivering training programs on-site; the ability to allow for open enrollment; an interest in the integration of industry-recommended topics into the regular curricula of the college; the ability to offer day, evening, and weekend courses; a minimum of a two-year commitment of membership in the consortium; a location which allows regional accessibility; regional accreditation; the ability to prepare instructors; and affordable consultation services. Upon review of these criteria and MCC's ability to satisfy them, Xerox and Eastman Kodak jointly nominated MCC as a Supplier Training Center.

Staffing. Two MCC staff members are currently involved in the CST project: the director of corporate services and the STC program manager. The director provides overall leadership to the effort; the STC program manager carries out the daily operations of the center. The responsibilities of the STC program manager include faculty recruitment and training, and scheduling and marketing CST-sponsored courses to all CST members' suppliers in the region. Activities include attendance at business shows, conferences, and other business meetings; individual meetings with supplier representatives and referrals generated by the STC Sponsor Manager; direct mailings to suppliers; and advertising in publications aimed at suppliers. One of Eastman Kodak's professional staff members in its Corporate Sourcing department serves as the STC sponsor manager. This individual meets regularly with the college's STC program manager, sits on the CST Advisory Committee, and helps the STC program manager market courses to Eastman Kodak suppliers.

The training of instructors is an essential component of the Kodak/MCC relationship. Instructors are selected by the STC Program Manager based on criteria provided by the companies that own the courses. Potential instructors are required to attend special sessions of the courses which they are likely to teach. These train-the-trainer courses are led by course owners, company-based master trainers who are responsible for deciding whether or not potential instructors should be certified to deliver the consortium courses. The majority of MCC instructors certified to deliver consortium courses are faculty members in MCC's other academic divisions. However, as demand has enlarged the consortium training calendar, it has been necessary to employ adjunct faculty due to the limited availability of full-time faculty to teach consortium courses that are often presented in eight-hour time blocks on a single or multiple day schedule. The use of full-time faculty has required a considerable amount of support from the college's academic departments: from time to time faculty members are

released from their normal teaching duties to teach consortium courses.

Certified faculty deliver all of the instruction for supplier training courses either at the supplier's location or at a facility owned or leased by the college. The criteria for selecting faculty for CST courses include a demonstrated understanding of and commitment to total quality concepts; the ability to serve as a role model in the practice of TQM and therefore be a strong representative of the college and the CST; familiarity and experience with adult learners; good communication skills emphasizing facilitation-based training methods; the ability to relate complex course concepts to a broad range of industries and individuals; tolerance and flexibility in the use of industrial terminology and acronyms; and the possession of at least a bachelor's degree or equivalent experience appropriate for the level of training and the target audience. Finally, instructors must have had some exposure to high-tech manufacturing and an understanding of the issues and needs in high-tech industries.

Curriculum. All of the consortium courses are provided through "licenses" granted to consortium member colleges by the company "course owners" who originally developed and produced the courses. The CST has several courses available on a national basis; these are listed on the following page. In 1994, the last full year for which statistics are available, CST-certified instructors from MCC and Finger Lakes Community College trained over 550 individuals. Among those trained in 1994 were 300 Kodak employees and 175 employees of Kodak suppliers.

The current list of courses being offered through the consortium emphasizes a customer-focused, business-efficient approach in all activities; incorporation of methods to reduce variation and defects; identification and analysis of work processes in order to gain insight and implement improvement efforts; leveraging the creativity of the work force through problem solving; and assessment of the group's ability to create breakthrough improvements as compared to the competition. While all of the courses are delivered by a combination of lecture, group work simulations and exercises, one course, "Business Process and Cycle Time Management," requires participants to bring an actual process from their workplace along with representatives (forming a team) from each step of the process. This course is designed to help suppliers add efficiency to business processes and reduce cycle time.

At the present time, consortium-sponsored training is limited to the broad area of total quality management, featuring training in subjects ranging from introductory total quality management to statistical process control. In the future, the consortium plans to install up to 50 additional course offerings at Supplier Training Centers throughout North America. While instruction is currently provided mainly in lecture format, classroom practice exercises add variety. Some courses feature the use of videos and/or role playing. Future plans call for coursework delivery using videoconferencing and/or interactive compact discs.

The relationship between Kodak and MCC in the development of the local Supplier Training Center in Rochester has been excellent and has manifested itself in the form of joint marketing presentations to such groups as the National Association of Purchasing Managers, the American Society for Quality Control, and the American Purchasing and Inventory Control Society. Kodak and MCC personnel have presented and discussed details about the development and value of the CST at national and regional conferences.

Facilities. Since the CST's inception, training programs have been delivered at a variety of locations. These facilities have included Kodak training sites, leased conference facilities, and the college's two campuses, which offer conference facilities with corporate training classrooms. Most often these courses are conducted in half-day or full-day blocks and sometimes for one or more weeks, making the use of campus facilities difficult unless those facilities are reserved and held open for corporate programming. In the long term, MCC would like to build a separate technical education and training facility and conference center.

Funding. The entire CST project is now financially self-sustaining, funded by fees charged to suppliers who enroll their employees in the courses. In the early days of the consortium, CST "course owner" companies shared the cost of installing CST coursework at MCC. However, since the level of activity has increased to a point where enough course fee revenue is available to fully support the program, MCC is expected to cover all of the costs associated with the instructor certification.

Evaluation. The CST courses are evaluated at "level one," meaning all participants are required to evaluate each faculty member and the course in which they enrolled. Motorola analyzes these evaluations on a contractual basis for all consortium members nationwide and provides regular comparative reports enabling evaluative data to be compared and benchmarked against other Supplier Training Centers. The evaluation covers many aspects of instructional delivery, materials, and facilities.

A section of the evaluation addresses the relationship of the course to participants' work, the delivery format of the course, the extent to which participants feel they met course objectives, the quality of instruction, the quality of the learning environment and facility, and the quality of the printed materials provided in the course. As mentioned earlier, it is the CST's intention to move from level I evaluation to levels II and III. After they return to work, participants will be asked for feedback on the degree to which the course has actually affected their work and their ability to implement TQM-related practices on the job.

A CST evaluation team, sponsored by the CST Advisory Board, examines the program outcomes of each Supplier Training Center. In addition to reviewing and

acting upon level I evaluation results, the team looks at the number of course offerings produced by each Supplier Training Center, and the number of suppliers who actually participate in the supplier training courses. The consortium advisory board's goal is to continually increase the number of suppliers enrolled in the consortium courses. Each individual site sponsor (i.e., Kodak and Xerox) works to ensure that the community college markets its supplier training courses to all suppliers in the region served by the college. These marketing efforts are constantly under review for continuous improvement.

Consortium for Supplier Training (CST)

Current Course Curriculum

Eastman Kodak Company

"Using the Malcolm Baldrige Criteria
to Improve Your Company's Competitiveness"

Motorola

"Introduction to Techniques for
Phased Process Quality Improvement"
"Utilizing the Six Steps to Six Sigma"
"Manufacturing Cycle Management"
"Design for Manufacturability"

SEMATECH

"Introduction to Total Quality"
"Partnering"
"Problem Solving"

Texaco

"ISO 9000"

Texas Instruments

"Business Process Management"

Impact

Kodak and MCC's partnership has affected the corporation, the college, and the community in several ways. Through the consortium, Kodak is able to provide its suppliers with access to affordable and world-class training in TQM. Thus, suppliers see Kodak as committed to providing opportunities for improving their performance and their profitability. CST membership expands the college's market to suppliers of CST member companies. As a Supplier Training Center, MCC has an opportunity to demonstrate its ability to break existing paradigms and perform in new roles, such as an assessor of training needs and TQM applications/consultant coach.

Kodak's relationship with MCC through the CST is important. Through the consortium, the college has access to affordable, world-class training courses that have been developed and proven effective with consortium member companies. The college can influence planning for curriculum and supplier training course location policy. Additionally, the college gains exposure and recognition through the consortium and its relationship with consortium member firms. Networking and resourcing opportunities have accrued to MCC through the CST membership. Through the consortium, the college has been able to influence Kodak's local plans and the development of their resources to train the local work force.

Beyond the CST relationship, however, the college continues to provide credit courses and noncredit courses on a contractual basis to Kodak employees. Kodak has invested considerable resources in the college through direct contributions to the Monroe Community College Foundation, which supports scholarship funds, equipment purchases, and other needs of the college. Kodak's contributions have touched the lives of many MCC students, faculty, alumni, and other members of the MCC family. In addition to this financial support, the company shares its "intellectual capital" with the college through Eastman Kodak employees whose commitment and wise counsel guide the college's board of trustees, the MCC Foundation board, and other advisory groups, including curriculum advisory committees. Kodak employees have served with distinction as MCC faculty and guest lecturers, providing MCC students with the most current knowledge and guidance in a wide range of disciplines. Over the years, thousands of Kodak employees have participated in hundreds of MCC credit and noncredit courses. The relationship with Kodak, particularly the training programs that the college offers directly to the company and to its suppliers, has significantly impacted MCC's faculty and its students. Full-time MCC faculty teach a large portion

of the educational programs provided through the Kodak/MCC relationship and bring back to the classroom the benefits of their exposure to industrial applications of the disciplines they are teaching. Industrial training, such as that provided through the CST, is one of the more significant professional development opportunities that community college faculty have available to them.

Lessons Learned

The relationship between Eastman Kodak Company and MCC illustrates the benefits that can accrue to a large corporation, smaller companies (i.e., Kodak suppliers), and community colleges. Corporations are a significant market for education and training services beyond traditional credit courses. However, when deciding to take its resources to the community—and in particular to the corporate sector—a community college needs to look carefully at how such a decision will impact its structure and procedures, among other areas of potential concern. Success for colleges in ventures with business depends heavily on their willingness to behave as businesses do. Often, this is a very difficult thing for colleges—particularly college faculty—to do. Developing relationships with businesses requires colleges to overcome essential differences in the operating styles of academia and big business. According to Frank Milligan and James McGuidwin, in "Serving Big Business," (*Partners in Economic Development: Community College Strategies for Collaboration* 1993), colleges are accustomed to slower decision making, and faculty are accustomed to making course content and curriculum decisions based on requirements of their disciplines rather than those of "customers." When businesses buy or contract for training programs, they become a customer with an expectation that course content will be delivered according to their specifications and not that of an academic discipline.

Because the Corporate Services office houses the Supplier Training Center and coordinates and develops all other training efforts provided by the college for Kodak employees, it is important that the office have the authority and ability to alter more traditional college processes, procedures, and regulations to support customer requests. Customers expect quick responses from staff who react with a "sense of urgency." Thus, a single point of contact in a college, such as a corporate services office, lessens the potential negative impact that could be caused by cultural differences between the college and the corporation. In order for colleges to overcome the cultural differences between them and their corporate partners, the chief executive officer of the college must be totally committed to establishing these kinds of relationships. This helps drive home to faculty and other college administrators the importance of the activity, the need for cooperation, and the need for flexibility within college procedures when they interface with corporate clients.

Success for colleges in ventures with business depends heavily on their willingness to behave as businesses do. Often, this is a very difficult thing for colleges—particularly college faculty—to do.

When developing a relationship with a corporate client, it is important that all parts of the college community be informed of the developing relationship. It is also advisable that the corporate offices responsible for community outreach training and other facets of the planned relationship are informed to the highest levels possible. This facilitates communication between the organizations and helps to develop support for the relationship by all parties and by all communities and groups within each organization. Developing relationships with corporate clients is a long-term process that can be very rewarding for both organizations. For Eastman Kodak, the relationship with MCC has meant the existence of a reliable source of training and education for its employees, their dependents, and the suppliers of the corporation. For MCC, Kodak's relationship with the community college (including the CST sponsorship and other cooperative ventures) has been recognized at the corporation's highest levels and has resulted in significant contributions of funds, in-kind services, and equipment to the college. That recognition and support have enabled the college to serve a broader constituency than it would otherwise have been able to do.

The future of the MCC/Kodak relationship is bright. The college will certainly continue to train Kodak suppliers through CST courses. Additionally, more and more Kodak departments are contracting for CST courses. Kodak recently adopted a goal of 40 hours of training annually for all employees as a means of maintaining quality leadership. The impact of this recently adopted goal has not yet been felt, but the college is looking forward to helping the corporation achieve its goal.

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Chapter 11

Moraine Valley Community College and Autodesk, Inc.

Richard C. Hinckley and J. C. Malitzke

Moraine Valley Community College, established in 1967, is situated on 306 acres in the southwest suburbs of Chicago. The campus annually enrolls over 25,000 students and utilizes 640,000 square feet of operational facilities, including its Center for Contemporary Technology (CCT), and a recently dedicated Fine and Performing Arts Center. Moraine Valley is the seventh largest community college in Illinois and serves a population base of 350,000 living in 26 municipalities.

In 1982, several years prior to the opening of the CCT, the board of trustees and president began a strategic initiative to address the economic conditions of the region. Forming a new college unit, the Employment Training Center, the college quickly initiated a survey of industrial needs. The survey resulted in a design for business and industrial services with a variety of short-term training programs at its center. The college also formed the Economic Development Corporation for the Southwest Suburbs to bring together key individuals from its 26 municipalities to develop a comprehensive economic development strategy. The success of these endeavors, and a recognition that existing computer and industrial programs were not adequate to serve community needs, stimulated the college to plan for support and funding for an advanced technology center. The plan set the college on a path to seek industrial partnerships as a method to support local industry.

In 1988, the college opened the Center for Contemporary Technology, a 125,000 square-foot facility built specifically to address the economic development needs of the immediate community. At the time, faced with the loss of regional manufacturing jobs, the college sought the advice of its local business leaders to design a facility that would assist them to be competitive in a radically changing global market. After several days of focus groups and planning activities, a general building design emerged that would allow the college to emulate a manufacturing enterprise. The college was advised to showcase computer-integrated-manufacturing (CIM) and to provide the range of services necessary to meet the needs of both labor and management.

The design of the CCT embodied the advice given, and through other partnerships, the college built the range of services necessary to strengthen local manufacturing. The building became its own CIM enterprise, with the ability to demonstrate all elements of CIM and provide assistance and training in each element. Assisted by charter membership in IBM's Computer Integrated Manufacturing in Higher Education Alliance (CIMHE), and benefiting from IBM's generous donations of funds and equipment, the CCT became a powerful resource and tool for local industry.

The value of this effort was captured in an article entitled *Community College Advanced Technology Centers: Meeting America's Need for Integrated, Comprehensive Economic Development*: "America's community colleges are being recognized for the vital role they play in upgrading and revitalizing America's industrial base. Many of these uniquely American higher education institutions have, in fact, begun to launch novel, farsighted initiatives to this end. By entering partnerships with business and industry, community colleges are able to offset the high cost of remaining current with training techniques, job market skill requirements, and state-of-the-art hardware. One key element supporting these partnerships is the construction of Advanced Technology Centers on community college campuses" (Hinckley, Venditti,& Rasch, 1989).

A Partnership is Forged

In planning its move into computer-assisted-design instruction in 1984, Moraine Valley Community College faculty and staff faced a quandary. Moraine Valley's regional industrial base of large corporations was heavily invested in mainframe computers. At the same time, many small to medium companies were investigating migration from manual drafting to computer-assisted-drafting using mini and personal computers. The marketplace, meanwhile, was becoming flooded with a plethora of expensive design software, written for all sorts of platforms. The choice of platforms on which to base the college's program would be significant and long-lasting.

One company, Autodesk, Inc., was aggressively developing a nationwide network of training providers for the emerging personal computer design market. This effort was timely, for Moraine staff were increasingly sure that instruction in automated design must make greater the use of personal computers.

By 1985, the Design Drafting department was considering its options for the delivery of college credit CAD courses using the personal computer. The department chairperson took a one-year sabbatical to study CAD at Ferris State University in Big Rapids, Michigan. At the same time, a fellow faculty member began designing a curriculum for CAD based on a personal computer platform.

Despite the reliance on mainframe computers among the region's large corporations, the industrial base in the

immediate Moraine Valley service area consisted of small to medium-sized manufacturers. An informal assessment of their design tools revealed that many still relied heavily upon manual drafting and that the use of minicomputer or mainframe computers for design was virtually nonexistent. As a result, the initial curriculum was designed around the personal computer. With advice from the Design Drafting Advisory Council, the initial curriculum was written and processed through appropriate channels, including the college's board of trustees and the Illinois Community College Board. Specifications for the first CAD laboratories were written, and with the use of state and federal DAVTE (Division of Adult, Vocational, and Technical Education) equipment grant funds, the first of many generations of CAD laboratories was established. At the time, the focus was on the the credit curriculum with no priority given to short-term industry training or retraining.

Coinciding with events at Moraine Valley in 1985, Autodesk Corporation was building a network of training centers and developing the first guidelines for what the company would call its Authorized AutoCAD Training Centers (ATCs).

Among the software that had been selected for use in the Moraine Valley CAD laboratories was Autodesk's lead product, AutoCAD. Being familiar with the Autodesk market share in the desktop design software market, the faculty members approached the senior vice president and the Business and Industrial Technology dean with a plan to apply to Autodesk for Authorized Training Center status.

The Approach. Autodesk, founded in 1982, is the worldwide leading developer of design and drafting software for desktop computers and workstations. The company has created a variety of software applications that provide sophisticated design, engineering, scientific, and animation capabilities. The first opportunity for a face-to-face meeting with representatives of Autodesk came in 1985 in Chicago. Autodesk had a display area at the Architects, Engineers, and Contractors (AEC) national conference at McCormick Place. Contacts were made with Autodesk's Authorized Training Center manager, and a meeting was arranged for Moraine Valley to make a verbal application as an Authorized ATC. With the new Center for Contemporary Technology and the investment already made in CAD instruction, getting Autodesk to the college campus would be key to convincing the company that Moraine Valley would and could be a good partner.

Due to scheduling difficulties, the visit never took place. However, Autodesk asked the college to make a formal application to Autodesk for ATC status. Included in the application were pictures of laboratories, marketing strategies, resumés of prospective instructors, and a business plan. Autodesk reviewed the ATC application and business plan over the next six months. Many phone conversations took place over various issues and concerns. In a letter dated November 21, 1986, an ATC manager stated: "I am pleased to enclose the signed contract which establishes Moraine Valley Community College as an Authorized Training Center. We at Autodesk are proud to be affiliated with your school and look forward to a long and rewarding relationship over the coming years."

Purpose of the Partnership

The partnership between Moraine Valley and Autodesk is structured to provide the highest quality instruction in design and animation software, to both credit and noncredit industry professionals. For Moraine Valley, the partnership is designed to:

- keep the college on the leading edge of technology in a cost-effective manner, in design drafting and animation;
- transfer technology to industry professionals;
- endow credit and noncredit programs with continuous improvement of hardware, software, and technology knowledge and vision; and
- establish a firm capability in the design portion of the college's CIM strategy.

For Autodesk, the partnership is designed to:

- leverage training facilities and resources;
- transfer technology to new and existing users; and
- provide extended marketing.

Activities and Programs

Organization. All college business and industrial programs, credit and noncredit, are organized in one instructional area, the Business and Industrial Technology Subdivision. Faculty, staff, and facilities are organized to work in one unit. The Design Drafting/CAD department is responsible for oversight of both credit and noncredit programming, and laboratories serve both curriculums. In this model, the Authorized ATC resides within the Design Drafting/CAD department and is managed by full-time faculty and staff with concerns for both credit and noncredit programming. Relationships with Autodesk are by and through the same chain-of-command as all instructional services.

To successfully operate an Authorized ATC, management and staffing are critical elements. Each Autodesk partner is free to organize its own internal support structures, and Moraine Valley has created a model in which the full-time faculty provide overall ATC management for instructional delivery supervising personnel, hardware, software, and curriculum. A professional manager with the college's Business and Industrial Technology Institute

(BITI) assists with advertising, instructional support, logistics, enrollment, budget, and student affairs. Reception, clerical, and related support for the partnership are shared among other programs operating in BITI.

Faculty Requirements. Autodesk does not provide support personnel for the partnership, but does provide training for managers and instructors. Every ATC instructor is required to take update classes or application classes annually that are specific to his or her training discipline. Autodesk provides the classes at various ATCs across the nation, and all ATCs are required to send their instructors to these classes as provided in the ATC contract. Autodesk has selected permanent training sites at strategic ATC locations that provide training for both ATC instructors and Autodesk product resellers.

The agreement with Autodesk is quite specific in its requirements for faculty. Along with its support of the Authorized ATC network with instructor development training, Autodesk requires certain minimum standards for faculty, including experience with the software packages in industrial settings. Autodesk rigorously evaluates the faculty through direct student assessment. After every class, evaluations are completed and sent to Autodesk for their review. Following normal practices at the college, both full-time and adjunct faculty teach in the ATC.

Commitment to Excellence. Autodesk requires a commitment to excellence—both on their part and on the part of each ATC. On the wall of each Authorized ATC is a mission statement (see below).

Overall Program. The Authorized Autodesk Training Center is designed to transfer technology to businesses and industries that are involved in the areas of drafting, design, engineering, and animation, including mechanical, architectural, civil, GIS, and multimedia vertical markets. Industry-quality, short, intensive courses are offered during day, night, and weekend hours providing a range of options for companies' employees. Course formats vary between single eight-hour days to 40-hour, five-day schedules, and are generally conducted at Moraine Valley's Center for Contemporary Technology CAD labs.

Registration is assisted through a special corporate registration form. A corporation completes the form with proper employee information and faxes it to the appropriate manager in the Business and Industrial Technology Institute who completes the registration of each person. Fax registration accounts for over 60 percent of enrollments. The remainder of enrollments can be traced to a professionally designed Autodesk Training brochure and the college's community course mailer. Billing takes place after the class has been completed. Quanitity discounts may be available if there are sufficient registrations from one company.

Moraine Valley provides services to three targeted audiences. The first audience includes the industries that use CAD in their specific service area. Manufacturers, architectural firms, professional design studios, and various service industries make up this group. Collectively, these industries account for 70 percent of the training market.

The second audience is the Autodesk reseller network. Moraine Valley's training center has provided hands-on

AUTOCAD TRAINING CENTER
OUR MISSION

The AutoCAD Training Center (ATC) Program constitutes a worldwide network of accredited educational institutions officially recognized as centers of Autodesk product training. It is their purpose to provide education of the highest quality for practicing and prospective professional users.

PROFESSIONAL TRAINING: An ATC is selected by Autodesk after meeting stringent requirements established to assure excellence in Autodesk product training. They are committed solely to professional training, and therefore, are not resellers of hardware or software.

AS OUR COMMITMENT TO YOU WE PLEDGE: Qualified instructors. Individualized, hands-on training. A workstation for every student. Standardized courses of the highest quality. Quality industry-standard equipment. A professional training environment.

YOUR SATISFACTION: Our goal is your satisfaction. A standard student evaluation of this ATC is conducted at the conclusion of each class. Your feedback is valuable and is reviewed by Autodesk. If you have a concern, please discuss it with your instructor, the manager of this ATC, or call Autodesk ATC program manager at 1-800-445-5415.

intensive courses in AutoCAD release updates and multimedia updates for over five years. Working in conjunction with the Autodesk Training department, a monthly schedule of classes is set up at Moraine Valley, and the classes are marketed to all resellers in the United States. Moraine Valley registers interested resellers, faxes their names to Autodesk, holds the classes, and bills the reseller. After a course has been completed, a list of each attending reseller is forwarded to Autodesk for certification.

The third audience is the credit degree and certificate student. The Mechanical Design and Drafting department has gained valuable expertise, curriculum materials, hardware, and software because of its relationship with Moraine Valley's ATC. Many instructors teach in both the ATC and degree programs using some of the same curriculum materials.

One special feature of the partnership is the new Advantage Plus Program for ATCs. Autodesk initiated the program in 1994 to establish a fee structure and specific tiers for ATCs. Each year, an ATC must reapply to Autodesk to remain an Authorized ATC. If accepted, an annual fee is assessed. Each ATC must submit a business plan, marketing plan, lab schematics, and instructor resumés. Based upon the geographic region, marketing trends, and course offerings, an ATC is classified as Foundation, Advanced, or Premiere Tier facility. Each tier receives all the software needed for its labs based upon the above criteria.

The Moraine Valley Premiere ATC has very large yearly enrollments and offers over 150 course sections each year. It specializes in beginning two-dimensional through advanced three-dimensional mechanical CAD and has two levels of multimedia training. It offers release update training and has CAD management and CAD programming courses as well as third-party mechanical CAD/CAM and architectural/civil offerings.

Products and Services. Autodesk produces design-automation and visualization computer software including such packages as AutoCAD, AutoCAD Designer, AutoSurf, AutoVision, 3D Studio, and Animator Pro. These computer tools allow users to make original graphic design and animation representations. With a 70 percent market share in the design/drafting field, Autodesk's flagship product, AutoCAD, is used worldwide in all fields of design, including automotive, aerospace, residential architecture, commercial architecture, and civil engineering. Software packages such as AutoCAD Designer and AutoSurf are targeted at mechanical design companies using 3D solids and 3D surfaces respectively. 3D Studio, an animation software, is used for video game creation, architectural renderings and walk-throughs, mechanical component assemblies, visualization, and even forensic studies.

The technical content of the courses is designed to meet the needs of specific vertical markets. An example would be a discrete part manufacturing company seeking training in 2D and 3D part design and manufacture. Moraine Valley's role would be to set up a training sequence for the company, with a range of basic and highly advanced courses designed to meet the company's specific needs. Course syllabi and course materials are also provided. A generic course sequence chart is included in the periodic program brochure produced at the college. The sequence chart, shown in the figure on page 61 graphically leads a prospective client through the levels of available curricula.

As an example, employees from McDonalds Corporation have received training at Moraine Valley in the use of AutoCAD, 3D Studio, and third-party software for restaurant design and for 3D animations. Commonwealth Edison, the local electrical power utility, has trained a large number of its employees at Moraine Valley on Autodesk products for use in designing power stations, roads, wiring diagrams, and nuclear power facilities.

Facilities. When the agreement with Autodesk was first written, the college had two CAD laboratories in operation. One was a PC-based laboratory; the other was a workstation-based laboratory. Today there are five primary CAD laboratories and two laboratories that are used on an as-needed basis. Expansion of the original two laboratories was made possible because of the partnership with Autodesk. With each annual renewal of the agreement with Autodesk, minimum computer hardware configurations for various software packages are provided to guide equipment and other purchases. Beyond Autodesk's basic requirements, it was important to provide laboratory furniture that will allow a client to work comfortably for several hours at a time. Attention should be given to room configurations, surroundings, and amenities. Clients spend several days in a laboratory, and comfort and atmosphere are key concerns.

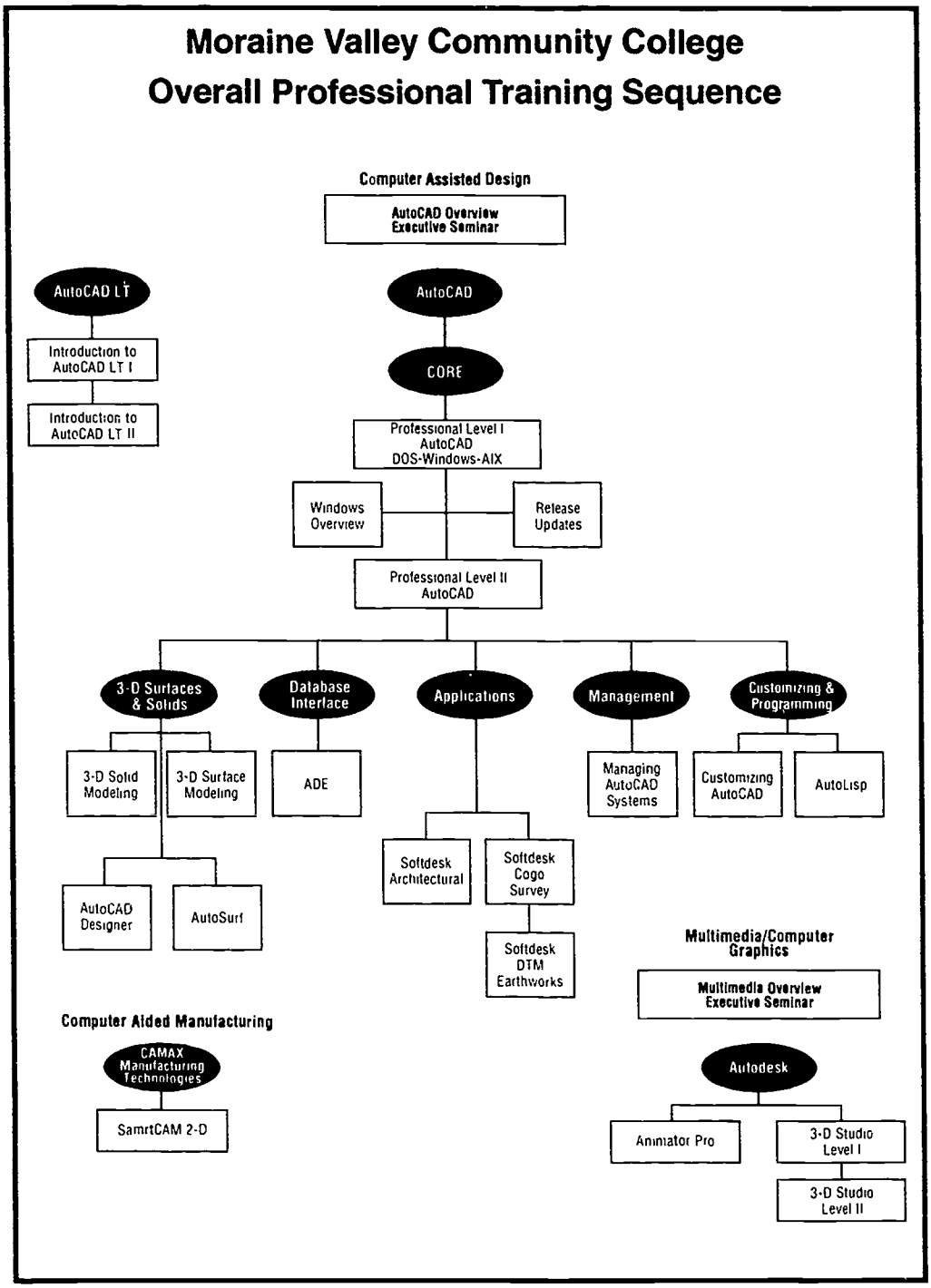
When Moraine Valley initiated the partnership, it was with the understanding that the college would operate the ATC as a business with due consideration given to quality control and client expectations. Throughout the years, many ATCs across the country have failed to keep pace with advancements in technology and facilities. Careful consideration must be given to hardware, software, furniture, projection systems, video links, as well as human comfort features like vending machines and access to phones and washrooms. Moraine Valley's training facilities were designed with these needs in mind, as well as the benefits of a variety of lighting schemes, large monitors, close-in parking, and assistance with local hotels and transportation.

All CAD labs are situated on-campus. While occasional customized training contracts have been negotiated in which

the client's own facilities are utilized, on-site training and workshops do not offer the same quality control.

Funding. In the simplest terms, Autodesk provides software to the partnership and the college provides facilities and instruction. Revenues from scheduled and customized training sessions produce sufficient funds to pay all direct and indirect costs with excess revenues available for investment in equipment upgrades. Indirect costs include administrative overhead, marketing and promotion, goods and services necessary to reproduce and bind training manuals, and refreshments.

Throughout the life of the partnership, Moraine Valley has been able to use a portion of ATC revenues to reinvest in new computers and software each year. The investment has been necessary to maintain the ability to utilize the fullest features of Autodesk's various software packages and has provided a side benefit in which the replaced equipment is used to refresh other computer laboratories. In a process that the college calls "cascading the technology," older hardware is moved to other college departments and curriculums when new computer laboratory hardware is purchased. Over the years, several computer laboratories in the Information Management Systems department, the Business and Industrial Technology Institute, and the college's Learning and Computing Center have benefited from cascading.



Faculty who teach in the ATC, whether full-time or adjunct, are normally compensated based on existing faculty pay scales.

Evaluation. As with most programs and services offered by community colleges, a key indicator of success is whether or not the community responds to the offering with their attendance. While ATC attendance is strong, tests, outcome assessment models, and satisfaction surveys are also used to determine the usefulness and value of the program. Through these methods, it has been shown that

the partnership between Moraine Valley and Autodesk has been successful in providing leading-edge software training to students and clients, as well as support for Autodesk resellers.

When a school like Moraine Valley devotes the proper resources to establish a first-class business operation, Autodesk has a partner that assists with marketing its software, training its end-users, and projecting a professional business climate.

As a method of evaluating its ATCs, Autodesk requires that all students who receive training at an ATC complete a program evaluation questionnaire. The questionnaire asks for information on the type of training received, and clients respond to statements and open-ended questions designed to determine if course objectives were achieved, job-related training expectations were met, materials were appropriate, the environment was conducive to learning, the instructor was knowledgeable and experienced, the equipment worked properly, and if parking was convenient. These and other questions form a profile for the ATC that allows the center to be ranked in categories of instruction, equipment/facilities, curriculum, attendance, special achievement, and an overall category. Autodesk uses the results to determine the ongoing status of an ATC in its partnership network.

Taking the partnership seriously, Moraine Valley has won more awards than any other ATC in the United States since 1987; the college won the prestigious overall category award in 1989 and 1992. In another category, Moraine Valley produced the highest enrollment numbers for an ATC in the United States in 1992 and 1993.

Impact

Autodesk, for the past ten years, has used its ATC network to assist end-users in securing access to quality training programs throughout the United States. Along with having a competitive product that has won 70 percent of the market, the ATC network is a strong marketing tool for Autodesk. Using its partner colleges and proprietary CAD schools, Autodesk has built a formidable mechanism to bring high-quality instruction to all who purchase its products.

In the process, Moraine Valley has gained leading-edge technology and knowledge, and the ability to deliver both to the community. During the past nine years, large numbers of students in both credit and noncredit courses have received instruction in the latest Autodesk software line, and an understanding of how to utilize the technology in their businesses as well as their homes. The partnership has allowed staff to continue to upgrade their skills and to maintain their facilities and equipment at a state-of-the-art level. The reputation gained by the college in CAD training has been leveraged into many successful grant proposals, donations, and additional partnership arrangements that have paid enormous dividends.

The advantage to Autodesk is quite obvious. When a school like Moraine Valley devotes the proper resources to establish a first-class business operation, Autodesk has a partner that assists with marketing its software, training its end-users, and projecting a professional business climate.

Lessons Learned

Clearly, partnerships between education and industry can serve both well. The importance of planning in accomplishing a successful partnership is paramount, and a general blueprint for success should include:

- the commitment of the administration, faculty, and staff to serve the economic development needs of the local community;
- a tolerance for controlled risk-taking with the understanding that all partnerships may not bring the intended results—and some may fail;
- an emphasis on classroom-level decision making so that faculty expertise is used to lead and guide. The faculty are closest to the client and the technology and bring a critical perspective;
- an attitude on the part of the college that enables it to think like successful businesses and engage in good business practices—and to see students as clients who should be provided with the highest quality and most effective education and training;
- a total package of services including customized training, credit classes, noncredit classes, needs assessments, small business development services, contract procurement services, economic development services, and meeting space.

By keeping a close eye on these key issues, Moraine Valley has been tremendously successful in its partnership with Autodesk—and in the process has established a model for other community colleges across the nation.

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Chapter 12

South Seattle Community College and the Boeing Company

Thomas Phillips, Garry Peck, and Jill Wakefield

With leadership from education, business, labor, and government, the Washington State Manufacturing Technology Standards, Competencies, and Curriculum Development Project was initiated in 1992. Since that time, Washington State's Manufacturing Technology Advisory Group (MTAG), under the leadership of The Boeing Company and South Seattle Community College, has been transforming manufacturing education into a model education-for-employment consortium.

South Seattle Community College is a member of the Seattle Community College District, which also includes North Seattle and Seattle Central Community Colleges, and the Seattle Vocational Institute. South Seattle is recognized for its strong technical programs, in which 65 percent of its 7,000 students are enrolled. Because of a job placement rate which has exceeded 90 percent for the past ten years, South Seattle has become known as "Paycheck College." Contract training for business and industry is a major focus for the college. Every college program, from aviation maintenance and computer technology to food sciences and liberal arts, provides training to area employers, ensuring that a well-trained and educated work force is available for existing and future jobs. The success of contract training efforts can be found in strengthened relations with business, increased donations of equipment and funds, more involvement by business representatives in curriculum development, and more than one million dollars each year in contract revenue.

The Seattle Community College District, the second largest institution of higher education in Washington State (exceeded only by the University of Washington) serves 28,000 students each year. Since the district was established in 1967 by the Washington State Community College Act, more than three-quarters of a million people have earned certificates or degrees, or have taken classes for professional development or for personal enrichment.

Workforce training and retraining are especially important within the Seattle Community Colleges, where students study in more than 125 technical, professional, and occupational programs, ranging from aviation maintenance to culinary arts, from hazardous waste management to watch and clock technology. Technical advisory committees, consisting of more than 750 business and industry experts, work with the faculty of each program to ensure that students receive cutting-edge training and that graduates are well prepared to enter the work force.

The Seattle Community Colleges have been involved in training partnerships with industry for more than 25 years, through vocational/technical programs, adult basic education, transfer courses, and contract training. The role expanded in the 1990s, as the colleges reached out to serve increasing numbers of high school dropouts, workers in need of retraining, and businesses requesting training.

Working with business, labor, and public agencies, the Seattle Community Colleges are addressing issues such as raising worker standards, increasing productivity, stimulating a more flexible work force, bringing workers of color into the work force, and enhancing educational standards.

The Washington State Manufacturing Technology Advisory Group (MTAG)

In December 1992, representatives of industry, labor, education, and state government formed an ad hoc committee to explore the development of a manufacturing education program for Washington State's existing and future work force. The first meeting was attended by representatives of two businesses, three community colleges, and one state agency. The participants discussed the feasibility of industry and education working together to develop a high-performance manufacturing technology work force in the state of Washington.

The Washington State Manufacturing Technology Advisory Group (MTAG), as the group came to be known, was initiated as the result of several concurrent events. Technological changes were fueling international competition faced by the state's business community. At the same time, these companies were facing the challenge of increasing productivity while cutting costs. Struggling to keep pace with technology, business leaders realized that the future work force did not possess the necessary skills or training. In addition, basic skills of new employees, particularly those coming directly from high school, were less than what was required to meet these challenges.

The Boeing Company, a key player in the MTAG program, had reinvented itself to meet these challenges, and was concerned that new employees did not possess the skills and attributes to succeed in the new environment. The chairman and CEO of Boeing noted, "There are no quick fixes for the problems that affect our schools. The challenge is simply too big for any one sector of society to tackle alone. Educators cannot do it by themselves; neither can parents and students; nor business; nor even the combined resources of our local, state, and federal governments. The solution is partnerships that bring

together individual citizens and groups from the public and private sectors."

Since 1992, MTAG membership has grown to include 52 individual members representing 17 businesses, 13 educational institutions, three labor organizations, three state government agencies, and one community service organization. MTAG was chartered to identify and communicate worker standards and "core" competencies, and to develop a manufacturing technology degree program that teaches students the broad, basic skills required to function effectively in today's increasingly complex and competitive manufacturing organizations. Specifically, its objectives are:

- to change existing manufacturing education and training programs to be "industry needs" driven and to provide a more technically-oriented and flexible work force;
- to prepare high school graduates for entry-level jobs in manufacturing or for entry into community/technical college advanced manufacturing specialty programs, such as electronics, machining, composites, tooling, and manufacturing resource planning;
- to prepare community college manufacturing technology graduates with the option of entering the work force as skilled manufacturing technicians or continuing their education at a four-year college;
- to provide adult retraining programs in various fields of manufacturing; and
- to provide industry/labor sponsored, manufacturing work-based learning programs that link with students' academic and vocational training.

The Manufacturing Technology degree program to which MTAG has dedicated its efforts is based on the following premises:

- The number of technical manufacturing jobs will continue to increase, although the total number of manufacturing jobs in Washington will remain constant or decrease slightly.
- The workplace is becoming more complex due to shorter product cycles, rapid changes in technology, demand for quality and service, and increasing global competition.
- Old jobs in manufacturing are evolving and merging with new jobs, resulting in the rewriting of job descriptions and tasks.
- Good skills, coupled with high-wage jobs, are essential for a healthy economy in Washington State and the nation.
- A high-performance workplace is dependent on a high-performance work force.
- Like old job descriptions, educational curricula and pedagogy must also be restructured.
- Job skills (competencies and standards) must be defined by industry and labor.
- Industry and labor must become actively involved in the education of the existing and future work force.

Working from these parameters, MTAG has established the foundation for a statewide manufacturing technology competency-based education program—to be in place by 1996—that begins in high school and leads to an associate or advanced degree. The program relies on industry and labor to provide work-based learning opportunities for both students and faculty.

MTAG Partners

MTAG, as a coalition of business, labor, government, education, and community service organizations, is partially funded through a grant from the National Science Foundation. The grant is administered by the dean of technology for South Seattle Community College. A full-time director and part-time secretary report to the dean. MTAG is composed of an Executive Council and two standing committees. Participating organizations include:

Industry. The American Electronics Association, the American Plywood Association, the Association of Washington Business, the Boeing Company, the Eldec Company, the Electronic Manufacturing Association, the Fluke Corporation, Heath Tecna Aerospace Company, Hewlett-Packard, IBM, Intermec Corporation, Kaiser Aluminum & Chemical Corporation, Pioneer Industries, Simpson Tacoma Kraft Paper Company, SeaCast Inc., Tredegar Industries, and the Weyerhaeuser Company.

Labor. The Aerospace Machinist Union (District 751 AIM & AW), the United Steel Workers of America, and the Washington State Labor Council.

Education and the Public Sector. The Applied Technology Training Center, Central Washington University, Clover Park Technical College, Community Colleges of Spokane, Seattle Pacific University, South Seattle Community College, Western Washington University, six Tech Prep Consortia (representing 12 community colleges, five technical colleges, two skills centers and 147 high schools), the Central Area Motivational Program, the Office of the Superintendent of Public

MANUFACTURING TECHNOLOGY EDUCATIONAL PATH		
Workplace Skill Levels	**Examples of Skills**	**Where Skills are Learned**
Fundamental workplace skills	Basic skills (reading, writing, math) Thinking skills Personal qualities	High school
Manufacturing Technology Basic skills Technical core	Measurement Print interpretation Layout and inspection Occupational safety and health Business economics Product and process control Quality in manufacturing Material science Labor Group dynamics	High school (junior and senior year) Community college (first year) Summer intern programs
Manufacturing Technology Specialties	Electronics Machining Production planning CNC programming Manufacturing computing	Community/technical college and summer intern programs
Advanced manufacturing technologies	Industrial management Manufacturing engineering Industrial engineering Computer science Manufacturing R&D	Four-year college or university

Instruction, the State Board for Community & Technical Colleges, and the Workforce Training & Education Coordinating Board.

Developing a Successful Manufacturing Education Program

The success of a manufacturing education program, according to MTAG , is contingent on the development of a curriculum that is based on competencies and performance objectives defined by industry and labor. The focus is twofold: on students preparing to enter the work force and on adults in need of retraining and skills udpating.

Through a Manufacturing Technology educational ladder (illustrated in the chart above), each program builds on previously acquired skills. Fundamental workplace skills, such as writing, mathematics, thinking skills, and communication skills, are to be completed prior to completing high school. Manufacturing "core" competencies are acquired in high school and community/technical colleges through Tech Prep 2 + 2 programs that prepare individuals for more advanced manufacturing specialties. Manufacturing specialty or industry-unique skills such as electronics, machining, production planning, and manufacturing computing are taught at community and technical colleges.

Articulation agreements among high schools, community/technical colleges, and four-year institutions allow a seamless educational path from high school to the workplace or advanced education. Work-based learning programs offered by both defense and commercial manufacturing firms link on-site work experience with the

student's academic and technical training. Ongoing program evaluation is built in to all levels of instruction to ensure continuous improvement of the program.

The Development of MTAG

MTAG is pursuing four distinct phases of development that were laid out during early planning covering the years 1992 to 1998. Phase I was to determine manufacturing core requirements and develop pilot internship programs (1992-1994). In Phase II, the current phase of the project, the manufacturing core program is under development and the internship program is continuing (1994-1996). In Phase III, the core program will be implemented and programs expanded to include advanced manufacturing technology skills (1996-1998). Phase IV is envisioned as continuous quality improvement of the program as it moves into a self-sustaining basis.

Phase I. This phase, completed in 1994, kicked off with a survey of industry and labor to determine the basic skills (competencies) for entry-level manufacturing jobs. The survey, originally developed by the Boeing Company, was sent to 177 Washington State manufacturing firms and 28 state labor coordinators; responses were received from 55 firms and 16 coordinators. The 297 competencies ultimately identified from the survey became the basis of the Manufacturing Technology Core curriculum.

Phase I also established a pilot work-based internship program. The Boeing Company initiated the summer student internship in 1993, and designed it to combine the student's last two years of high school with two years of community or technical college education and three summer training internships, all leading to an associate degree in manufacturing technology. During the first summer, students are introduced to career opportunities in manufacturing and basic factory skills, and provided information on specialty fields within manufacturing. The following summers become progressively more advanced. Internships are coordinated with high schools and colleges to complement the students' academic courses. In 1993, 25 students participated in the intern program. That number grew to 75 the following summer, with participation expected to reach 300 by 1997. The program also includes a six-week summer program for high school and college educators. The educator internship provides the instructors with manufacturing work experience that can be applied in the classroom. The Boeing program is serving as a model for other manufacturing firms that wish to implement work-based learning.

Key funding for this phase of the program was provided by Boeing, who covered the cost of the program director, the survey, and other administrative support. The balance was provided by MTAG members.

The chairman and CEO of Boeing noted, "There are no quick fixes for the problems that affect our schools. The challenge is simply too big for any one sector of society to tackle alone. Educators cannot do it by themselves; neither can parents and students; nor business; nor even the combined resources of our local, state, and federal governments. The solution is partnerships that bring together individual citizens and groups from the public and private sectors."

Phase II. This phase began when leaders from local high schools and community colleges met to discuss the interest in offering a Manufacturing Technology curriculum at their institutions. An all-day "competency writing" workshop was offered for teachers and instructors who expressed interest in writing the competency modules. Over 90 faculty members attended, representing 34 high schools and 10 community and technical colleges. The workshop focused on competencies and performance objectives and instructed writers on the use of a software template to record their lesson plans. Following the workshop, 85 faculty members were hired to write competency modules for the 297 performance objectives. Specifically, instructors were asked to record how they, as teachers, set the stage for students to gain competencies; the practice activities they provided for students; and the evaluation methods they used to assess the attainment of the competency. Instructors were also asked to serve as resources for other teachers. In effect, MTAG is building a statewide network of instructors around a common set of curriculum objectives. The collection of competency modules is being used by participating high schools and colleges to design and develop manufacturing technology programs at their institutions.

The second phase of the project was funded by a grant from the National Science Foundation ($429,680), a grant from the Washington State Board for Community and Technical Colleges ($35,000), and Boeing matching funds.

Phase III. In the third phase, the focus will continue to be on strengthening the capacities and capabilities of participating high schools and community colleges, increasing the involvement of industry and labor, and evaluating the effectiveness of the curriculum and the MTAG program. The completion of the first two phases will establish the foundation of a seamless manufacturing technology program that begins in high school with the core academic and vocational training and continues into the community college advanced specialty curricula. Students who have completed the core requirements will have the opportunity to exit the program at any time with basic

employable skills, or to continue their training toward the associate degree as a technician.

The primary objective of this phase will be to solidify the Manufacturing Technology program in the state of Washington to the point that it is self-sustaining by 1999, and recognized as a viable manufacturing technology education and training program for students and adult workers.

Planned activities for the third phase include: annual grants of $100,000 from the Boeing Company to selected high schools and colleges that participate in the Manufacturing Technology program, an educator/industry exchange program, publication of preferred Manufacturing Technology core lesson plans, and a survey of 400 manufacturers to determine advanced technology specialty skill requirements for Washington State businesses. One concept under consideration is the development of a standard articulation agreement for all participating high schools, community and technical colleges, and four-year colleges and universities, providing a portable educational program throughout the state of Washington.

The Impact of MTAG

The MTAG partnership between business, labor, government, education, and community service organizations is a prime example of how much organizations can accomplish when they work together toward a common goal. MTAG partners have assumed ownership of this project, ensuring that when students successfully complete a degree in Manufacturing Technology, they will be prepared to enter the work force.

When MTAG is fully implemented, it will serve as an exceptional example of industry-guided education and training for students and adult workers, and will result in a vital pipeline of trained individuals ready to meet the general and specific needs of industry. Other benefits include:

- Closer communication between education and the private sector. Instructional programs are becoming more reflective of the kinds of knowledge, skills, and attitudes that employers expect. Employers more readily hire graduates of programs they have had a hand in shaping.
- Wide involvement of all players. High school teachers, two-year and four-year college instructors, union representatives, state education staff, and private trade school representatives are sitting down together to design MTAG programs.
- Discovery of common goals between academic and vocational faculty. The walls between the two are slowly coming down.
- Development of new courses and content. True competency-based approaches are being developed. If students are sent to a community college with a portfolio of skills already demonstrated to have been mastered, those courses need not be retaken.

Although the first students will earn their manufacturing associate degrees in 1996, the full value and success of this program will not be known until 1998, when the graduates have spent two years working in the field.

Lessons Learned

Project managers have discovered that it takes a significant amount of time to implement a program of this magnitude, and to fully involve educational, business, labor, and governmental partners. Each group has learned much about the culture and "ways of doing business" of the others.

It was discovered that many teachers and instructors find it difficult to write competency modules. For many teachers, it is a new way of preparing classroom instruction. Because the Manufacturing Technology program requires competency-based instruction, competency writing workshops will be offered during the summer months. The workshops will focus on developing module writing skills using the MTAG competencies and the MTAG competency module software.

In addition to faculty development, in-service training is needed in subject matter areas where teachers are deficient. MTAG will survey teachers at participating schools and colleges to determine which areas require in-service training.

Another lesson learned was that many of the faculty do not have industry work experience, and conversely, industry and labor representatives have little or no experience in the classroom. An "Educator-Industry Exchange" program is under development, scheduled for implementation in Phase III. The program will provide opportunities for teachers to work in manufacturing firms and industry personnel to teach in schools and colleges.

MTAG's goal of a seamless program supported by a competency-based, articulated curriculum is well on its way to becoming reality, one that can be duplicated throughout the nation. The program is enabling students to progressively acquire technical skills by providing opportunities to exit at specific skill levels or to continue their education through an associate or bachelor's degree.

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Chapter 13

Sinclair Community College and the Reynolds+Reynolds Company

Dan A. Brazelton

Sinclair Community College hardly resembles the original institution founded in 1887 as the YMCA College of Dayton. Today, Sinclair is an institution with an enrollment of over 20,000, which makes it the largest single-campus community college in the state of Ohio and one of the largest in the United States.

Over this time, the mission of the institution has undergone several evolutions, and the college now plays an integral and ever-broadening role in fulfilling the hopes, dreams, and aspirations of the people and businesses in Montgomery County, Ohio. Located in downtowr. Dayton, Ohio, Sinclair offers associate degrees and continuing education in a broad range of disciplines. Dramatic change has marked its growth, particularly in recent years, and this is no more evident than in the institution's relationship with the community.

Workforce Development Programs

The Corporate and Community Services division of Sinclair has been a leading provider of management and continuous improvement training since 1988. Success is based on a customized approach to helping companies become quality, team-based organizations.

The college established the David H. Ponitz Sinclair Center, a $24 million facility, to provide educational opportunities for the community. The 200,000 square-foot center has allowed the college to expand linkages with the business, industrial, governmental, and nonprofit communities to facilitate quality, responsive educational programs. The college now offers both customized training and public workshops to over 700 organizations each year.

Providing training to more than 4,000 industry personnel annually, Sinclair offers credit and noncredit courses in areas such as synchronous manufacturing, statistical process control, computer integrated manufacturing, computer-aided design and manufacturing, and robotics, as well as business and personal development.

A Special Partnership: Reynolds+Reynolds Company

Reynolds+Reynolds Co. is a leading provider of information management products and related value-added services for the automotive, health-care, and general business markets. The Fortune 500 company has over 5,000 employees in plants in the United States and Canada.

Prior to 1994, Sinclair delivered several successful managerial workshops to the company. These efforts led to the development of Management 2000, a wide-ranging program to facilitate the transition from a top-down, hierarchical corporate culture to an empowered, team-based work force at the company's Dayton and Celina, Ohio, manufacturing facilities. (The two locations represent both union and nonunion work force structures.)

After the success of Management 2000, Reynolds+Reynolds inquired whether Sinclair could help with their needs in the area of information technology training and, as a result, Sinclair personnel took part in discussions and planning sessions for what developed into the Technical Skills Education Program. The program's objective is to promote new generation computer expertise to support distributed computing requirements, providing enhanced and extended computer skills for both professional and managerial staff. Training is now underway to transfer the company from a mainframe computer-based information system to a distributed client/server system. The company is converting from indexed data files to relational databases, and from procedural software to object software. The program has had a successful start and is in its third cycle of training.

Since 1994, Sinclair has been a strategic partner in developing and delivering a national management training program for the company. In seeking a training resource, Reynolds+Reynolds wanted a partner who was on the cutting edge of curriculum and who had credentials in both the academic and business communities. Sinclair was chosen as the partner based on its unique combination of qualities:

- a nationally known Corporate and Community Services division;
- the flexibility to tailor all curriculum to Reynolds' strategic initiatives;
- numerous resources offered at competitive costs;
- faculty geared to the business environment; and
- facilities conducive to adult learning.

To effect a smooth corporate cultural transition, Reynolds required stable, capable resources that could deliver locally, regionally, nationally, and internationally. A consistent, high level of programming was needed to facilitate Reynolds+Reynolds' rapid change in corporate culture, skills, and abilities. These changes involved moving from an environment of control to one of self management; switching from directing change to facilitating change; and moving from monitoring results to influencing continuous improvement.

Purpose of Partnership. The purpose of the Reynolds+Reynolds/Sinclair Community College Partnership is to fulfill the company's core value of recognizing people as the essence of the company, and to demonstrate the firm's commitment to providing current and potential leaders with the practical tools and resources to grow within the organization.

The company has defined a learning organization as one that places emphasis on: aligning learning with company requirements for future success; ensuring competencies are articulated and well known; clearly stating a development philosophy; and focusing on processes, group development, and collaboration.

Sinclair fosters the attainment of Reynolds+Reynolds' strategic objectives through:

- educating employees on the common language, approaches, and competencies needed to support Vision 2000 in achieving a $1 billion sales objective, and Reynolds' capability-building initiatives (see "Vision 2000" highlighted in box);
- providing ongoing learning opportunities to assist employees in achieving high-performance expectations;
- serving as a vehicle to share, experiment with, and institutionalize Reynolds' best practices; and
- educating suppliers, customers, and educational institutions on how they support and will benefit from improvement in the company's capabilities.

Organization and Staffing. Reynolds+Reynolds' Human Resources department was charged with developing a series of training seminars to help their management teams shift from traditional autocratic leadership to a more participative style.

Sinclair has five administrative support staff involved with the Reynolds+Reynolds' project, including one person assigned to the partnership as a portion of her regular assignment. Reynolds+Reynolds has a similar administrative arrangement; various other managers are occasionally assigned to help with specific topics according to their expertise.

The Corporate and Community Services division, part of the college's instructional component, is responsible for training, registration, administrative services, support, and related functions. The division has the primary responsibility to develop and maintain the partnership and coordinates the efforts of faculty members and community resource people involved in the training. Instructors are selected from the general pool of Sinclair faculty who participate in scheduled open seminars and contract training. A substantial concentration of full-time and part-time Sinclair instructors make up the pool of trainers; they are complemented by training consultants who have expertise in special topics that have been requested by Reynolds+Reynolds. Sinclair primarily utilizes faculty to deliver industry training as opposed to the general trend of relying principally on community-based resources.

Vision 2000

- One billion dollars in sales and doubling our shareholders' value by the end of the decade.
- "We have to be entrepreneurs, innovate in our thinking, and grow new businesses. That's going to mean putting teams together to brainstorm and drive new opportunities and make them happen."

Dave Holmes
Chairman and Chief Executive Officer
Reynolds+Reynolds

Interactive Seminar Programs

The Reynolds+Reynolds summer programs began with a focus on management development. Over time, as the corporation's culture shifted, so did the focus of the seminars, which evolved into a new series, Leadership 2000.

Management 2000. This companywide series of training workshops is designed to enhance learning managerial skills and to encourage supervisor-subordinate cooperative relations.

The Management 2000 series was centered on four tracks: Management Skills, Effective Communications Skills, Core Total Quality, and Business Measurement Concepts. Instruction was typically delivered in standard seminar style, with an emphasis on interaction between the instructor and participants. A combination of multimedia packages from Vital Learning and custom curricula developed by the college was utilized.

Sinclair assisted Reynolds+Reynolds in replicating components of management 2000 across North America, from Oklahoma to Toronto to Maryland, through the use of a network of community colleges. For some of these seminars, Sinclair instructors flew to remote sites, but for most of them, the college found it cost effective to share their experiences and materials with colleagues at other community colleges. For example, Sinclair linked Reynolds+Reynolds with Humber College of Applied Arts and Technology in Toronto to provide instruction on the seminar material. These cooperative efforts have helped

Reynolds+Reynolds establish new relationships and have allowed company personnel in a variety of locations to receive quality services from local community college resources.

Reynolds+Reynolds has now formed a new division named Reynolds University; the Sinclair training partnership was the basis for its design. Reynolds University was established to build strategic competitive advantage and organizational capacity by enhancing capability-building initiatives; developing common languages, approaches, and competencies; encouraging sharing of best practices; and creating a culture of continuous learning.

At the same time Reynolds University was formed, the Leadership 2000 initiative was begun, an effort that has added more progressive content in tune with Reynolds' mission and fostered high involvement, empowerment, and world-class leadership skills.

Leadership 2000. In the upcoming Leadership 2000 series for Reynolds+Reynolds, Sinclair is evaluating the use of Thoughtware, an interactive computer program to assist participants in self-assessing their leadership style prior to the seminar. This approach would give seminar participants information about how they compare with other managers in such areas as delegation skills, listening skills, and general management style. The objective is to motivate managers, to more fully "buy in" to the benefits of leadership training.

Nearly all of the project has been accomplished at the Ponitz Sinclair Center. Funding for these programs has been based on a full dollar chargeback to Reynolds+Reynolds. No state subsidy or other external support is being received by Sinclair or the company—a strong indication of corporate commitment.

Evaluation. Final evaluation of the program is based on the degree that outcomes match the Reynolds' initiatives. Each instructor is interviewed by Reynolds+Reynolds before and after each offering, and standard Reynolds+Reynolds and Sinclair evaluation forms are used and reviewed by both company and Sinclair officials.

Client participants are evaluated with standard evaluation forms for each seminar component. Several levels of evaluation are utilized, including self-assessment. Appraisal by the participant's supervisor has been selectively applied. In addition, a formal mid-course focus group is held. Reynolds+Reynolds has also organized focus groups of past seminar participants from diverse management levels that have provided significant feedback on how the program and instruction can be improved.

Impact of the Partnership

Because of the success of this partnership, Sinclair has adopted parts of the model program for other organizations and partnerships.

Core Values

- Focus on Customers and Service
- Strive for New and Better Ways
- Maintain High Standards of Integrity
- Profit Is the Lifeblood of Our Business
- People Are the Essence of Our Company

Reynolds+Reynolds

One impact has been a higher level of visibility for the college in the community. The president of the college and the CEO of Reynolds+Reynolds have a shared community development commitment and this has led to beneficial spin-offs.

Sinclair has showcased its relationship with Reynolds+Reynolds at the annual League for Innovation workforce development conferences in New Orleans and San Diego. As a result, Sinclair's relationship with academic colleagues across the nation has grown and changed as more of them have become attuned to Sinclair's involvement in its partnership with Reynolds+Reynolds.

Colleagues frequently inquire as to how the college attracts talented faculty and provides incentives for faculty to work on the project. Questions are also typically asked about whether outside funding or other outside resources are being utilized. One recurring question is why Reynolds+Reynolds, a Fortune 500 company and one of the nation's largest business forms manufacturers, would choose to work with Sinclair and not with other consultants. The answer is that Sinclair has a quality reputation as a stable organization with the depth of staffing, creativity, capacity, and commitment to repeatedly deliver excellent services over time. Sinclair has impressed Reynolds+Reynolds with its ability to deliver quality products and its attention to the company's unique requirements.

The partnership has successfully assisted Reynolds+Reynolds in making the transition toward an empowered work force as evidenced by the transition from the Management 2000 project to Leadership 2000. The continued relationship attests to the benefits derived by both partners.

Reynolds+Reynolds has been able to confidently pursue their ongoing development effort with Sinclair and

to avoid having to search the country for an organization with the necessary resources to provide program material in the desired manner. In the process, Reynolds+Reynolds has gained a valuable resource and partner.

One recurring question is why Reynolds+Reynolds, a Fortune 500 company and one of the nation's largest business-forms manufacturers, would choose to work with Sinclair and not with other consultants. The answer is that Sinclair has a quality reputation as a stable organization with the depth of staffing, creativity, capacity, and commitment to repeatedly deliver excellent services over time.

After the first cycle of seminars at the Dayton offices of Reynolds+Reynolds, management recognized the value in presenting these components to the remainder of company facilities elsewhere in the U.S. and Canada. A decision was made to utilize local community colleges near the facilities rather than transporting Sinclair faculty to remote sites. Sinclair facilitated this process through its contacts with the League for Innovation and other schools. In the process, Sinclair and Reynolds+Reynolds personnel worked together to ensure that standards of consistency and quality of delivery were met. The solid base of understanding of contract training that exists within the League helped ensure the success of this venture.

The college's Ponitz Sinclair Center has been a core asset enhancing this partnership, for every time a person not familiar with the college campus utilizes this outstanding facility, he or she leaves with a favorable impression. The employee's professional development is enhanced, thus strengthening the company, while at the same time the college gains another advocate for increasing credit-based enrollment.

Lessons Learned

The partnership reinforced lessons Sinclair had learned in the past, but has also brought new understanding.

In building this partnership, Sinclair became aware that each division at Reynolds+Reynolds has a unique culture and set of requirements that must be individually addressed, a process that requires substantial time and effort on behalf of Sinclair. Similarly, teaching a class for a corporate client is different than instructing a typical credit course; the dynamics are more challenging, and unique expertise is required. Faculty who participate know they have to be sharp, proficient, and flexible. Seminars must be oriented to accommodate a range of perspectives and people from varying levels of management and widely scattered parts of the country.

The importance of allowing faculty to grow and develop, to keep abreast with "real world" situations more efficiently, and to gain a broader range of experiences, perspectives, and applications has been reinforced.

Sinclair has learned that corporations often do not know exactly what it is they are asking for; sometimes Sinclair's role as informal consultant provides as much value as being a presenter of seminars.

Sinclair has had to overcome skepticismfrom companies about working with a community college even though the quality and history of Sinclair are well regarded. There have been some doubts candidly expressed about whether a community college could deliver a program with the desired quality, creativity, and flexibility. The question was posed whether an educational institution could be flexible enough to administer and adjust to evolving corporate needs. Some questioned whether Sinclair would be difficult to deal with— hidebound or bureaucratic rather than truly customer service-oriented. The quality of Sinclair's faculty and offerings has converted any doubters.

Sinclair learned it must continually communicate opportunities; it must not be assumed that Reynolds+Reynolds (or other corporate clients) will innately understand the capabilities of the college. As the dialogue between the two partners evolved, Sinclair was careful to communicate the capacities and services that it could provide. Community colleges frequently possess capabilities that are unknown to clients.

Also very important to the development of a successful partnership are the concepts of accommodation and flexibility. As the dynamics of the partnership have evolved, so has the understanding that both partners value these traits they find in the other.

Both Reynolds+Reynolds and the college have reaped many benefits from their association. In addition, the partnership has taught Reynolds+Reynolds that community colleges across the country share Sinclair's commitment to service and quality. Sinclair is proud to be involved in this partnership and to have served as the gateway for Reynolds+Reynolds to expand its relationships with other community colleges.

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Chapter 14

St. Louis Community College and McDonnell Douglas Corporation

Rebecca Admire

The roots of St. Louis Community College can be traced to a 1956 study by the President's Commission on Higher Education which revealed that colleges and universities were becoming increasingly inaccessible to students throughout the United States. St. Louis was no exception; it had only one small public college and was 100 miles from the nearest state colleges. In 1961, at the request of concerned local citizens, the Missouri General Assembly passed legislation to permit the creation of a statewide system of junior college districts.

In 1962, voters established the Junior College District of St. Louis/St. Louis County. The district's original financing—a combination of local property taxes, state funding, and student fees—remains in place today. To better reflect its wide range of offerings, the college changed its name to St. Louis Community College (SLCC) in 1976.

In its brief history, SLCC has accumulated many distinctions that have drawn national and international attention. It was the first junior college district established in Missouri under the 1961 legislation, and the first in the United States to construct three separate campuses simultaneously. The SLCC bond issue approving construction was the largest in junior college history at that time.

Today, with a service area that spans 718 square miles, SLCC is Missouri's largest and, among the nation's most noted community college systems. SLCC is second in enrollment only to the University of Missouri system. During 1994-95, SLCC will serve more than 130,000 students through college transfer, career, developmental, continuing education, and business/industrial training programs. College facilities include three campuses—Forest Park, Florissant Valley, and Meramec. Additional facilities include the West County Education Center, William. J. Harrison Northside Education Center, South County Education Center, and the Joseph P. Cosand Community College Center.

St. Louis Community College is a public, coeducational institution governed by a locally elected, six-member board of trustees. The college's mission as an institution of teaching and learning is to provide its constituents and community with "comprehensive postsecondary programs and services that are academically, geographically, and financially accessible. To this end, the college assumes responsibility and leadership in responding to the multiple educational and training needs of its diverse community. . . ."

Workforce Development. In fulfilling its mission to partner with business, industry, labor, government, and other institutions in the economic development of the metropolitan area, St. Louis Community College has created a broad range of successful programs and services.

Center for Business, Industry and Labor. Most notable was the creation of the Center for Business, Industry and Labor (CBIL) in 1984, which provides performance improvement services for hundreds of businesses in the St. Louis area. CBIL focuses on four major areas: training, quality consulting, work design, and productivity. Using a customized training approach, CBIL's staff offers key services such as needs analysis, instructional design, employee assessment, preparation of visual instructional aids, and effective delivery.

CBIL's staff of 180 employees includes trainers, specialists in business process improvement and Total Quality Management, instructional designers, technical writers, and videographers—and trains more than 45,000 employees from area businesses each year.

CBIL offers the diversity and flexibility required by its clients, whose prosperity depends on quick responses to changes in the business environment. This level of customer service is evidenced by CBIL's client list of more than 300 major and mid-sized businesses and industries in the metro area, including Anheuser Busch, Chrysler Corporation, Citicorp Mortgage, Hussman Corporation, Ford Motor Company, Trans World Airlines, and Petrolite Corporation.

CBIL initially was established in 1984 to meet the hiring and training needs of a new General Motors plant outside St. Louis. Missouri's governor appointed a task force to guide the state's educational institutions in filling these needs. As a result of the study, two business centers—one in Kansas City and one in St. Louis—were established through the community colleges. Although the St. Louis Center for Business, Industry and Labor was conceived as a referral system, its scope soon broadened. An industry advisory board, which included representatives from McDonnell Douglas Corporation, helped formulate a business plan for CBIL. Thus began a long-standing partnership between McDonnell Douglas and CBIL.

Forging the Partnership

Background and History. The far-reaching partnership between St. Louis Community College and McDonnell Douglas Corporation (MDC) began in 1984 when the company was part of the founding "council" that recommended the creation of the Center for Business, Industry and Labor (CBIL), a unit created and staffed by the college.

McDonnell Douglas Corporation, an internationally

recognized military aircraft manufacturer and Missouri's largest private employer, was one of CBIL's first clients. With almost 30,000 employees in St. Louis and multiple departments and disciplines, MDC's relationship with CBIL is wide ranging.

CBIL's expertise was especially crucial to MDC because of the scope of changes at the company in the five years beginning in the late 1980s. During that time, MDC's work force dropped from 40,000 to 28,000; the company needed to significantly expand its transportation aircraft business to address a more demanding and competitive military procurement process.

From the start, this corporate/college partnership has had strong encouragement and support from the leadership of McDonnell Douglas and the chancellor of St. Louis Community College. Over the years, the CBIL staff have worked with key Human Resources and Training personnel at MDC. At any given time, there are 10 or more CBIL employees working on site at MDC.

At MDC, CBIL has earned a reputation for being able to deliver effective performance improvement interventions utilizing appropriate technology, and MDC has come to rely on CBIL for guidance in developing and implementing performance improvement systems. MDC knows that CBIL can assure high quality and maximum value for their training efforts.

Purpose of the Partnership. CBIL's objective in its alliance with McDonnell Douglas Corporation is to build a satisfying relationship with the company that continues to meet the firm's changing needs; serve its many stakeholders, including current employees, displaced workers, suppliers and manufacturers; share leading-edge information in the performance improvement area; and use the strengths of both organizations for the betterment of both.

Over its 10-year history, the alliance has been reconfigured several times in response to changing industry pressures. In the early 1990s, the company had to deal with massive downsizing. Currently, the company is undergoing a comprehensive reengineering. Each of these events greatly impacted the thrust and activities of the alliance.

Downsizing: Serving Business Adjustments

Worker Reentry Program. When McDonnell Douglas Corporation was forced to lay off thousands of workers due to cutbacks in national defense budgets in the early 1990s, St. Louis Community College (SLCC) was able to meet the pressing needs of the company with a comprehensive Worker Reentry Program (WRP) for MDC's displaced employees.

Staffing/Organization. Seventeen SLCC employees service the Worker Reentry Program on site at MDC. The program manager supervises the operation, assisted by outplacement specialists, job developers, clerical assistants, a workshop specialist, and a labor liaison. SLCC specialists interact on a regular basis with human resources staff at MDC in servicing displaced workers through the WRP.

Program Background/Description. When company downsizing was being considered, MDC approached SLCC to create an outplacement and training center for the displaced workers. At that time, the company had had a successful partnership for several years with the Center for Business, Industry and Labor in the area of training and skills assessment, so a high level of trust in SLCC already existed.

Although SLCC had a viable Worker Reentry Program in existence, the staff and resources were not adequate for the tremendous needs of MDC. Defense conversion assistance grants from the Department of Labor allowed the WRP to make the adjustments necessary to help those affected at MDC by defense-related cuts.

At the "Job Search Workshop," clients learn the basic skills necessary to conduct an effective job search, including resumé preparation, interviewing skills, and how to access job leads.

The WRP at McDonnell Douglas offers a myriad of resources and services to displaced workers, including job search workshops; outplacement counseling; clerical support; and access to computers, fax machines, and long distance telephone service. The program also participates in a statewide effort known as "Rapid Responses," which is a half-day briefing for employees who have just been notified of a layoff. The meeting focuses on issues of immediate interest to workers, including employee benefits and unemployment insurance. The forum provides an opportunity for the WRP representative to schedule participants for an orientation session on the services of its program.

After the WRP orientation, each client meets individually with an outplacement specialist, who assesses the client's educational proficiencies and short-term and long-term goals, then schedules the individual for various activities that will assist him or her in overcoming any barriers to reemployment. At the "Job Search Workshop," clients learn the basic skills necessary to conduct an effective job search, including résumé preparation, interviewing skills, and how to access job leads. Several on-site representatives from the Missouri Division of Employment Security are also available to help clients with job leads.

In some instances, clients may need retraining or additional education to increase their chances of employment. The WRP helps such clients explore other

career options and then assists them in formulating a training plan, works with schools to coordinate financing, and even registers them for classes. Funds from Department of Labor grants also may be used to provide on-the-job training requested by a new employer.

Funding and Facilities. When MDC's fighter plane contract was canceled in 1991 and thousands of employees lost their jobs, the state of Missouri received a $3.5 million grant to serve displaced workers. When this grant was completed in 1993, another multimillion dollar grant from the Department of Labor was received based on an application from the Missouri Division of Job Development and Training, St. Louis County Department of Human Services, SLCC, MDC, and unions with membership at MDC. MDC provides a building it leases for the sole use of the WRP, which houses the 17 SLCC staff members and all training rooms and equipment.

Evaluation. Of the thousands of management and union MDC employees who have gone through the WRP, approximately 85 percent have found new employment, with seven months the average length of time necessary to secure a position. In 1993-94 alone, the WRP provided direct outplacement services to more than 1,100 MDC workers and placed 184 of the displaced employees in classroom training programs, generating 1,417 credit hours for SLCC.

Corporate/Community Impact. The Worker Reentry Program offers an outstanding support system for employees dealing with the emotional and financial struggle of losing a job. The program has a positive ripple effect throughout the community returning displaced employees to the work force, lessening the financial strain on the worker's family, and boosting the confidence of the reemployed. The program has gained recognition for SLCC at conferences conducted by the Clinton administration and the Department of Labor.

Looking Ahead: Reengineering the Partnership

New Jobs Training. Currently the MDC–SLCC partnership has shifted its focus to developing programs aimed at rebuilding the corporation. An integral part of this effort is the New Jobs Training Program, which represents the first and largest public offering of the Missouri Community College New Jobs Training Program (MCCNJTP). The MCCNJTP was created to provide education and training to employees hired for newly-created jobs in Missouri. The program allows the college to sell certificates to generate funds for training; the certificates are repaid through income tax withholding. When the Missouri legislature created the training program in 1991, MDC became interested through its contact with SLCC. During the six-month period ending in December of 1991, officials of the two organizations developed a training program specific to the needs of MDC. They applied for and received funding through the MCCNJTP. On April 21, 1992, SLCC entered into a ten-year agreement with MDC and the Missouri Department of Economic Development to provide this training.

The purpose of the project is to train personnel for new jobs in civilian and military transport aircraft programs at MDC. The New Jobs Program includes the design, development, and implementation of classroom and on-the-job training materials and delivery. To date, approximately 8,500 employees have been trained, and 3,000 new jobs have been created; the program has had a significant impact on a corporation striving to adapt. As the program nears completion of its three-year training cycle, MDC's employee base has been successfully solidified, and both parties are satisfied with the results. A direct benefit of the program has been the creation of new jobs and retention of employees in Missouri. The work that MDC subcontracts from Douglas Aircraft in Long Beach, California, was made possible in part by the New Jobs Training partnership between MDC and SLCC's Center for Business, Industry and Labor.

Staffing. CBIL's director and staff worked closely with MDC to guide the proposal's acceptance at the state level. Project coordinators for SLCC are CBIL'S director and assistant director. Project coordinators for MDC are the manager of contracts and pricing, the manager of education and organizational development, and the group manager of technical training.

In keeping with the team philosophy, both organizations provided instructors for new job training classes. Instructors from Douglas Aircraft in Long Beach, California, also were required for much of the technical training. More than fifty instructors have been involved over the course of three years. The highly technical nature of the course content requires close cooperation between MDC's engineers and CBIL's instructional designers. By applying a systematic design to the material, both parties worked to create a quality training program.

Overall Program. Program activities focus on training MDC personnel in the assembly and certification of work packages in connection with the construction of the U.S. Air Force C-17 transport aircraft and component work for the MD-11 and MD-80 commercial aircraft. The program represents a rebuilding of the business, as existing employees are trained for a new industry. CBIL's input includes:

- planning and development of a transport aircraft orientation manual;
- geometric dimensioning skills training in the classroom;
- nose bracketry planning for on-the-job training;
- total quality management skills development;

- assembly procedure manuals for C-17 flaps and slats; and
- course descriptions, outlines, structure OJT charts, and instructional methodologies and content for various areas of technical training.

CBIL instructional designers, working with MDC subject matter experts, designed and developed these training programs. McDonnell Douglas conducts a majority of the training on-site utilizing both classroom and on-the-job instruction. Instructional delivery methods range from structured on-the-job training and practical application, to individualized video or workbook training and lecture with written evaluation. Interactive video instruction (IVI) is used to provide self-paced, cost-effective training. A multimedia format of video, audio, embedded questions, and customized feedback is combined with touch-screen and videodisc technologies.

Funding. The agreement between MDC and SLCC provided for the issuance of $5.74 million in New Jobs Training certificates to be repaid over a ten-year period. Certificate proceeds are used to pay training, administrative, and issuance costs relating to new jobs created. All proceeds received or disbursed by this project are processed by a local bank, which acts as trustee for the funds. Disbursement authorization and reporting duties are entrusted to SLCC as the project administrator.

The certificates are repaid with tax credits from the state withholding (income) taxes on the new jobs created. MDC reports withholding taxes monthly to the state of Missouri; the state's Department of Revenue forwards new jobs credit to the trustee. Payments are processed by the certificate underwriter, and audits are conducted annually. Projected debt retirement is scheduled for the end of fiscal year 1996, five years ahead of the original projection.

Strategic Business Alliance. A collaborative Strategic Business Alliance among three key groups—McDonnell Douglas Corporation, St. Louis Community College's Center for Business, Industry and Labor (CBIL), and the AeroTech Service Group—is a dynamic example of a partnership where the whole is greater than the sum of its parts.

This key alliance is working together to implement and train employees to use a sophisticated electronic communication system—CITIS (*Contractor Integrated Technical Information Service*)—linking the Department of Defense, MDC, subcontractors, and suppliers that will enhance the customer/supplier relationship, provide new business opportunities for small suppliers, and create the potential for new jobs in the community. CITIS is part of a Department of Defense requirement for electronic data interchange.

Staffing/Organization. Because of the importance of the CITIS project, which was initiated by the Department of Defense, MDC created a special group to focus on its implementation. The director and assistant director of CBIL and the president of AeroTech work closely with the MDC group as key players in the alliance project team. Two full-time CBIL employees work on-site at AeroTech, with other staff contributing time as needed.

To date, approximately 8,500 employees have been trained and 3,000 new jobs have been created; the program has had a significant impact on a corporation striving to adapt.

Program Description/Background. AeroTech, a small, high-tech business and preferred supplier to MDC, had been working with MDC in a strategic business alliance on CITIS, an electronic information gateway that provides a single point of access to MDC's computer systems. CITIS offers easy, inexpensive online communication of contract data between the customer (military branches), MDC employees, and subcontractors and suppliers. AeroTech partnered with MDC in testing the CITIS prototype, creating procedures for it, and making the program more user-friendly.

When MDC realized the need for a highly effective CITIS training methodology, CBIL, in conjunction with AeroTech, provided the resources and personnel to develop the necessary training. CBIL and AeroTech are in the process of developing online, interactive computer-based training which runs on Windows, Macintosh, and UNIX computers. CITIS users—which includes MDC employees, suppliers, and Department of Defense personnel—receive a training diskette before going online with the CITIS program.

Traditional "stand-up" training also is being developed for situations when it is necessary to train large groups of users at one time. For example, CITIS training will be conducted for 50-100 MDC employees assigned to a new aircraft project that will use CITIS extensively.

Technology/Innovation. The Strategic Business Alliance is taking advantage of high-speed telephone communications, Internet technologies, and firewall security as it works to implement the CITIS program. Authoring software such as Macromedia Director is used in the development of computer-based training of CITIS.

Special Cooperation. AeroTech was the first company to be given access to MDC's CITIS software application. As a result of the unique relationship between AeroTech and MDC, and because of CBIL's record of accomplishments with MDC, AeroTech and MDC included CBIL into the partnership, making it an especially successful three-way alliance.

Each group brings its own unique talents and experiences to the alliance: CBIL as an expert in the

development and support of computer-based training and instructional design, and as a consultant in process improvement; AeroTech as a subject matter expert on technology, partner in the development of technology, and consultant in telecommunications, hardware and software, and process improvement; and MDC as a subject matter expert on the business process and a partner in the development of technology.

In serving the corporate client, it has been crucial to know the client well and to truly integrate the client's needs and objectives into the heart and mind of each individual at the community college who serves those needs.

Funding and Facilities. This project was funded with a combination of state money from the Missouri Customized Training Program and direct payments from MDC. No specific facilities were needed for this alliance. Work is done on site at MDC and AeroTech.

Corporate/Community Impact. CITIS has become a valuable tool to support the manufacturing process, dramatically reducing the cycle time needed for suppliers and manufacturers, and greatly improving the quality of the process. The success of the training is encouraging the use of CITIS, which not only improves MDC's chances of obtaining future government contracts but also reduces the "cycle time" needed for the bidding process and design change implementation. The acceptance of the CITIS system also is improving business opportunities for MDC's suppliers and creating a substantial number of new medium-technology jobs.

The primary beneficiaries of CITIS are MDC's many small suppliers (2,000 in Missouri alone) who now will be able to competitively bid for jobs by having immediate, electronic access to process specifications, special manufacturing instructions, and digital design data.

The CITIS effort is serving as a model for the entire McDonnell Douglas Corporation as it moves to a "paperless," all-electronic environment. CITIS also is being reviewed by other technology-based firms and economic development organizations as a model for new business through technology infrastructure.

Lessons Learned from the Partnership

Like all good partnerships, the long-term alliance between St. Louis Community College and McDonnell Douglas Corporation (MDC) has as its underpinning mutual respect, trust, dependability, and flexibility. In a wide range of projects and programs—including those that have been very successful and those not nearly so—both parties have maintained a sense of purpose, perseverance, and focus on the mission of the partnership. The success of this pairing has brought tremendous value to MDC employees, displaced employees, small suppliers, large manufacturers, and the greater St. Louis and Missouri communities.

High levels of trust and respect have kept the relationship solid even through periods of dramatic change at McDonnell Douglas. When expansion at MDC required a more structured hiring and assessment system, SLCC developed a program that would become a model for many other companies. When lost defense contracts forced extensive downsizing, MDC asked SLCC to develop a program to assist displaced employees at a critical juncture in their lives. MDC's commitment to be a "learning community" has meant invaluable training opportunities for its employees and has allowed SLCC to showcase its strengths through CBIL.

Objectives/Results. It is critically important that the objectives and focus of each project or program are driven by the business needs of the corporation. A customer-driven focus, keeping the client's needs as the primary goal of the alliance, will bear long-term fruit, including tremendous rewards to the community college. Once the corporation realizes the expertise and resources available through the community college, especially a college that has the company's success as its chief goal, a mutually-beneficial partnership can evolve.

The community college should seek alliances that are beneficial not only to the college and corporation, but to the greater community as well. Focusing on programs that highlight the core competencies and accomplishments of the college also makes good business sense.

Project goals should be simple, realistic, and easily measurable. Results should be reviewed and measured on a frequent basis. Appropriate and timely program improvements can then be made. In addition, communicating progress to all concerned on a regular basis garners continued support and engenders trust.

Communications. Although it may seem trite to emphasize communications as key to any relationship, the SLCC/MDC partnership has survived more than ten years because regular sharing of information, goals, aspirations, limitations, and opportunities has been a priority. In serving the corporate client, it has been crucial to know the client well and to truly integrate the client's needs and objectives into the heart and mind of each individual at the community college who serves those needs. The importance of listening carefully and remaining flexible enough to alter plans whenever needed cannot be overstated.

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