

College: Catawba Valley Community College
Location: Hickory, North Carolina
Practice: Hosiery Technology Center
 Modernizing the hosiery industry to take advantage of advancing technology and to succeed amid growing global competition

Year Started 1989

Budget About \$500,000

Program Participants Approximately 8,000

College FTE 2,600

Target Sector Hosiery

Staff Size 8 FT staff, PT industry faculty

Structure Part of two colleges: one a main center, one a satellite

Key Outcomes Economic development
 Preservation of hosiery industry
 Job training
 Research and development

Introduction

North Carolina firms produce about 60 percent of the nation's hosiery and employ some 35,000 people. Most firms are small, family-owned operations with fewer than 75 employees. Many are clustered in and around North Carolina's Catawba Valley, particularly near Hickory, a city of about 25,000.

Hosiery is considered a low-tech niche in the state's large textile and apparel industries. Foreign competition and consolidation in the retail market have resulted in increased pressures on hosiery manufacturers with respect to price, delivery, and quality. As a result, manufacturers have sought ways to increase their use of technology and, in

turn, begun to demand a higher level of skills from workers. Unfortunately, those demands were not being met.

Catawba Valley Community College (CVCC) had provided minimal training to the industry over the years but was not prepared to meet all the specific needs of the small hosiery firms until it created the Hosiery Technology Center (HTC) in 1989.

Community Background

The Center is in an unusual metropolitan area, centered in Hickory but with no single city with over 30,000 people. The aggregate of the many small cities, however, comprises a large population.

Program focus	Sector specific	Economic condition	Economic base			Target populations
			Mfg	Agr	Svc	
Technology diffusion and transfer	Yes	Growing	50	0.2	15	Existing workforce, general, small firms

<i>Service Area</i>	<i>Catawba and Randolph Counties</i>
<i>Total Population</i>	258,000
<i>Median Household Income</i>	\$35,000
<i>% Below Poverty Level</i>	9
<i>% Unemployment Rate</i>	3.8
<i>% Minority Population</i>	10
<i>% Rural Population</i>	50
<i>% High School Graduates</i>	64.4
<i>% College Graduates</i>	11.7

Most of the hosiery companies served by the Center are located in rural North Carolina and use Hickory as their hub for information and training. This area is among the most industrialized in the U.S., with about half its work force employed in some form of manufacturing, with a large proportion of those in traditional industries such as textiles, apparel, and furniture but a rapidly growing number in fiber optics. Although unemployment has been low, incomes are also low and there is a growing Asian immigrant population with low levels of education and training.

Program Description

The catalyst for the Hosiery Technology Center was the industry's regional trade association, the Carolina Hosiery Association (CHA). As global competition heated up in the late 1980s, firms began to realize that they would sink or swim together. They also began to connect their technology, marketing, and organizational needs to education and training, and saw that they would be best served by an organization that could treat them as a system and deliver packaged services. Thus, was born the center.

The CHA stated in its proposal for a new technology center that, even though the community college "has substantial training resources in the industrial technologies. . .the hosiery industry is unique in many ways," and that "the current training programs cannot meet the needs for specific training in hosiery technology." CHA then appealed directly to the North Carolina legislature to fund an educational and training center. In 1993,

Senate Bill 938 was passed "to provide funding to disseminate hosiery technology through a Hosiery Technology Center under the supervision of the Department of Community Colleges."

The HTC is staffed by eight people; six at Catawba Valley Community College and two at Randolph Community College. Its director has a Textile Technology degree from North Carolina State University and considerable industry experience. In an unusual move, the state legislation gave the HTC considerable latitude in its operations and authorized it to serve the industry across the entire state. Although the center's staff report directly to the Dean for Continuing Education, industry plays an influential role in operating and resource allocation decisions, in staffing decisions, and in program and curriculum development. Industry personnel also teach special classes as needed. Indeed, industry views the center as its own resource.

Located in a commercial building a half-mile from the main campus, the center houses a wide array of equipment on which students can learn everything from the basics of production operations to the complexities of the latest computerized advances. Help in getting the equipment comes from vendors who, at no cost, place their equipment at the center, where local companies can see it, learn about it, and purchase it if they wish. (The turnover of equipment allows the center to stay current at minimal cost.) According to the center director, "The companies will come here to see equipment, because nobody's trying to sell them anything." It's the one place, outside of the Charlotte trade show, that they can compare different brands. Center staff will help them through the process of deciding whether they need new equipment and which best fits their needs, but will not get involved in the final judgment.

Programs and Services

The HTC offers education and training programs for everyone from production workers to mill managers. Training courses include a basic two-week "Knitting Operator" course and a two- to four-week training course for technicians, where students learn the intricacies of repairing state-of-the-art machinery. These classes are small (three to four in a class) and intense. The training is often supplemented with English as a Second Language or remedial courses at the college. Some of the students in technician programs also enroll in basic

technical courses such as electronics, hydraulics, or welding, and a few enter associate degree tracks.

Education for managers includes both formal seminars and exposure to new machinery and products on display. New courses for managers include dyeing, bleaching, and finishing; testing; environmental compliance; and conversion to e-commerce/e-business.

The center also teaches two-day courses for retailers on the production process, industry operations, and quality criteria. Participants have come from more than 200 companies, some large and internationally known, such as Gap, Wal-Mart, Penny's, Nike, Gymboree, Sears, and Dupont.

In addition to education and training, testing has become an important part of the center's offering, as customers become more discriminating and demanding in their quality criteria. In addition to the opportunity to see and try the latest production equipment, the center provides industry personnel with access to testing equipment that would be too expensive for individual firms to buy. Companies can submit samples or use the equipment with staff assistance. Demand for environmental testing is also growing. Recent tests, for example, discovered a large quantity of formaldehyde in the yarns from foreign vendors.

The center has also added marketing and human resources to its services, because all needs are subsidiary to market demand, and because tight labor markets are increasing demands for help with human resources. In line with this, the HTC currently is helping the industry convert to e-commerce and e-business. It has developed and maintains a web site that provides industry trends, technical articles, market opportunities, mill capabilities, employment and personnel needs, networking opportunities, etc. (www.legsource.com). It has a manufacturer database, supplier database, and retailer "hosiery terms" search engine. Currently, there are over 4,000 hits a day on the web site.

Finally, the center serves as neutral ground for competing parties in hosiery. All firms, large and small, are welcome at the center, and all have the opportunity to fulfill their training needs. For example, the HTC invited yarn suppliers to talk with knitters, dyers, and finishers about how to best deal with wax on the yarns, which is needed to avoid breakage. Thirty to forty companies joined together to share information. The director found that when firms meet in a neutral site and begin to discuss their problems, openness abounds. As a

local saying goes, "there are no secrets in hosiery." In 1998, as a direct result of a trip to northern Italy, about 20 companies joined together and invested in a project with graduate students at NC State University to help develop an automated boarding machine, the one major technology still not available in Italy. That machine, although not yet in the final desired form, is in use at the center.

Partnerships

To accomplish its goals, the center partners with a variety of institutions including:

- North Carolina State University Industrial Extension Service
- North Carolina Center for Entrepreneurship and Technology
- North Carolina Department of Labor
- North Carolina Department of Commerce
- South Carolina Manufacturing Extension Partnership
- National Institute of Standards and Technology Manufacturing Extension Partnership (MEP)

A MEP/North Carolina State Extension agent expert in the industry is located at the center. Another major alliance formed by the HTC is the Sock Testing Consortium. It includes hosiery manufacturers, retailers, two testing labs, the NC State University College of Textiles, the American Association of Textile Chemists and the Hosiery Technology Center. The goal of the consortium is to standardize procedures for testing hosiery products so that everyone is "talking the same language."

Outcomes

The Hosiery Technology Center has provided needed services not previously available and, working in close cooperation with the Carolina Hosiery Association, has altered the relationships among member companies. Firms that had been head-to-head competitors now cooperate on a wide range of activities. The companies now invest more in training and technology, they have a shared vision for their industry and the region, and they better understand what they have to do to compete. As a result, the companies are more stable and, though still threatened, are better positioned and more likely to survive in a variety of market niches,

ensuring that the region will remain the hosiery capital of North America.

Strengths, Challenges, and Replicability

The strength of this program clearly rests on its industry involvement and support, coordinated by an industry association, and the industry experience and acceptance of its director. This center is frequently visited and studied by other regions that are trying to understand the functioning of industry clusters. Replication of this type of industry specific and driven center and services that relate training to modernization requires the active support of a future-oriented industry association and a significant degree of autonomy.

As for challenges, the annual budget for the center, including its Randolph Community College satellite center, is about \$500,000, not including the costs of the facilities or overhead at the two colleges. About 60 percent of revenue comes from the community college system, slightly less than 10 percent from registration fees for courses, and the rest from federal and other contracts and grants. Enrollment driven revenues, however, make it difficult to the college to develop the new programs and services the industry needs. The new emphasis on testing and certification holds promise for generating additional revenues in the near future, but as long as the center exists to extend the state of the art and serve the total community and not just run classes, it will never be fully self-sufficient. The funding formula (based on numbers of full time equivalent students, or FTE) does not allow for training small numbers of people, research and development, testing, web site development and market-improving strategies so important for small to mid-size companies in this cluster but more than they can afford.

For more information, contact:

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