

# From Textiles to Transistors

## Education and Training for a New Economy

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*To ascertain activities which link education and training policies to economic development strategies, the Southern Growth Policy Board (SGPB) contacted key personnel in Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Kentucky, Alabama, Arkansas, Oklahoma and Puerto Rico in December 1983. A structured request was mailed to these individuals in early February. It identified eight general types of policy-program linkages, formal and informal, which might exist within state government. State documents which exemplified those linkages were requested: executive orders, interagency memos of understanding, project funding criteria, pertinent legislation, or relevant state publications. This article is based on responses to the structured request and is therefore representative rather than exhaustive. It is a summary of the most common linkages, noteworthy activities, and practices.*

### INTRODUCTION

The link between education and economic growth has been understood for nearly as long as the public has been responsible for schooling. Economic goals for education have driven federal education policy since the land grant colleges were established in 1862. Over the years it has generally come to be accepted that the sum total of skills, knowledge, and behaviors learned in school increase an individual's productivity in the workplace and that a productive workforce contributes to economic growth.

These are not new concepts in education, but they have become increasingly important. International competition and technological advances have accelerated the rate of change in the U.S. economy. The result is a decline in many traditional industries and jobs and an emergence of new industries and occupations. This rapid change has focused attention on the need for improving not only education but also job training to meet new skill requirements and take advantage of new economic opportunities. It is not surprising that the economic goals of education are being discussed even more explicitly today than before and that state and local education, training, and economic development agencies are working together and with the private sector to strengthen state and local economies.

Change must begin with education at the primary and secondary levels. Without basic skills, students are not well prepared to enter the work force, to continue their education and training at colleges and universities, or to participate in other higher educa-

tion and training programs.

Change must also occur in adult education and training programs. In the past, attention has centered on vocational education and training, although such programs have not always met the needs of employers or responded to high growth rates in specific occupational areas. The rapidly changing structure of the economy necessitates improvements in existing programs as well as a broader set of training programs and policies. The South has been a leader in the creation of customized job training programs for new and expanding businesses; many of these programs are integral components of states' economic development and industrial recruitment strategies.

These emerging needs have been recognized at the federal level in the Job Training Partnership Act (JTPA) enacted in 1982 to replace CETA (Comprehensive Employment and Training Act). Although JTPA provides funds for programs for dislocated workers, it cannot meet all retraining and upgrading needs. Additional complementary state training programs may be necessary to boost economic growth and development—e.g., retraining or entrepreneurial training programs geared to specific educational needs of citizens. Finally, states are beginning to recognize the important role universities can play in boosting economic growth and development.

### TRAINING

State training and vocational education programs have often been explicitly linked to economic development or industrial recruitment strategies.

Structural changes in the economy have heightened awareness about the need not only for a broader set of training programs to address retraining and dislocated worker needs, but also for more relevant programs to train individuals in occupational areas where demand exists. The Job Training Partnership Act has, in certain instances, become an integral component in the formulation of new and broader training programs and the development of overall state training policies. Public-private partnerships, in addition to those found under JTPA, have been initiated in states with the hope of creating more relevant training programs suited to employer needs and to solicit private sector support for training programs.

States have been making improvements not only in primary and secondary education, but also in vocational education and training. Many initiatives have come directly from the governors' offices. The "South Carolina Educational Improvement Act of 1984" included the following language: "The highest priority in funding for vocational education must be given to job preparatory, occupational proficiency courses in areas related to: current high technology trades, business and industries; small businesses which foster and enhance the economic development, stability, and diversification of the state's economy."

Customized job training programs were the most frequently reported linkage between training and economic development by survey respondents. These types of programs exhibit a strong linkage between vocational training and industrial recruitment efforts. Often the full cost of training for new and expanding industries is borne by the state. *North Carolina*, *South Carolina*, and *Oklahoma* were among the first states to adopt this model, but all of the other SGPB member states have followed suit. Although the administrative structure, organization, and training locations vary among states, the intent has usually been the same: to support business recruitment and expansion efforts.

In *Florida*, the Industrial Services Training Program (ISTP) was developed to provide a "quick start program" to meet the needs of new, expanding, and diversifying industries in the state. The program works closely with the Department of Labor, Division of Employment Security, to provide candidates for training. Programs are tailored to meet a plant's unique operations, complete with instructors, materials and training facilities. In addition, the Department of Education's Division of Vocational Education works directly with the Department of Commerce's Division of Economic Development in these efforts. ISTP offers a unique placement service through the Cooperative Agency Placement System (CAPS). It prepares a computerized printout every 90 days, or



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on special request, showing the names and specialties of vocational students who have completed training and who are willing to relocate in the state.

*Georgia* has administered a "Quick Start" Program through its Department of Education to provide skilled operator training for expanding manufacturing industries. The program offers a training plan specifically tailored for a plant, plus training facilities, equipment, state-paid instructors and screening of job applicants. Training usually takes place in two phases: pre-employment instruction and on-the-job training. In addition to "Quick Start," *Georgia* also provides customized training through JTPA's Titles II-A and III.

Several other states have used training as an incentive in their enterprise zone legislation. In *Arkansas*, a business participating in an enterprise zone must agree that one third of the employees hired are unskilled, unemployed, or receiving public assistance. Priorities in the distribution of JTPA funds are given to enterprise zone projects. In *Virginia*, local incentives are available to qualified businesses in enterprise zones, including economic development loans, employment and job training services, and public improvements.

legislative incentives



Public-private partnerships have become an essential component in the formulation of relevant training programs and in securing funds for such programs. *Arkansas* has developed an "Educators in Industry Program," a master's degree course designed to familiarize teachers with the industries located in the state. In addition, industries in *Arkansas* have donated over \$450,000 worth of equipment this year to vocational-technical schools for training purposes.

In *North Carolina*, the State Board of Community Colleges has been chaired by a businessman, with a majority of its members coming from the private sector. The state has had an extremely success-

Assembly for eight schools in 1981-82; fifteen schools in 1982-84.

In *Oklahoma*, industry has donated equipment to various vocational programs. The State Board of Vocational Education has mandated that all vocational education programs have an industry advisory team serving an active, integral part in the development of training programs. *Oklahoma* has initiated a unique program: the Southeast *Oklahoma* Rural Development Industry Program. Its purpose is to establish small businesses in special incubator facilities constructed on the campuses of three vocational schools, and subsequently to "spawn them" into the



ful equipment donation program which has resulted in over \$6 million worth of usable equipment for institutions in the community college system. Scholarship programs have been initiated at the state level by Wachovia Bank and Trust Company, the Weyerhaeuser Company, and Carolina Telephone and Telegraph Company. Many other companies have contributed to scholarships at the local level.

One community college program in *North Carolina*, the Cooperative Skills Training Centers program, is noteworthy because it has actively involved the private sector. Its purpose is to allow institutions and industries to cooperate in assessing local training needs and in developing instructional programs uniquely designed to meet those needs. Although the nature and scope of training may vary, the programs are responsive to the needs of production and manufacturing industries, with special emphasis on industrial maintenance, machinist, and tool and die making occupations. Since there are no restrictions on class size, the program has been particularly beneficial to existing industries which need specific skill training for a small group of employees. The program began with special funding from the General

community. The program is designed to encourage new business activity, to reduce the rate of small business failure, to create new businesses through entrepreneurial education and technical assistance, to incubate or develop new product ideas, and to train individuals to run a business.

Another special project in *Oklahoma* has been a consortium between the Department of Economic Development, the Department of Vocational Education, the state Chamber of Commerce and Governor's office. This profitable and popular program is operated by an elite 20-member industry advisory team. Its purpose is to increase the efficacy of *Oklahoma* businesses and industries by providing management training geared toward higher productivity. The program will not require any additional state funds in the future since funds will come from industry itself.

*South Carolina* has taken a comprehensive approach to job training, education and economic development. A report issued in December 1983 by the Governor's Implementation Task Force on Economic Development (ITFED) called "Job Training, Education and Economic Development in the 1980's,"

recognized that the state must revitalize its economic development efforts by addressing several specific aspects of job training and education. The four elements of this human resources policy are basic skills, retraining for marketable job skills, strategic job skill upgrading and entrepreneurial training. The report recognizes that the quality of public education is a key component of the state's long-term effort to promote economic development and to integrate adult education programs with retraining programs for displaced workers. Retraining is called for in occupational areas with maximum potential economic growth. With careful design and execution, these programs can help promote economic growth in businesses and industries which otherwise might not locate in South Carolina. One of the most interesting concepts in the report is "life-time training," which recognizes the need to train or retrain the so-called "structurally unemployed" individual throughout his or her lifetime in order to accommodate ever-changing job requirements, a common phenomenon in today's workplace.

The Governor's task force recommended the formation of a team comprised of staff from ITFED, JTPA, Vocational Education, Adult Education and the Employment Security Commission to implement the human resources policy. The team currently focuses on the life-time training concept, primarily through expanded OJT and "vestibule" training. Pilot programs are being funded in thirteen technical schools and 52 vocational schools. The report also suggested establishing a Governor's School for Entrepreneurial Development as the focal point for efforts across the state, in all levels of education, to improve the quality of entrepreneurial training.

## UNIVERSITIES

States have undertaken a number of measures to expand and improve the quality of education in their colleges and universities. The goals are to keep high school students in the state, to train needed professionals and technical experts for state industry, and to link university research and private sector needs.

Not only do universities help provide manpower for state industries, but university research and education programs serve to generate economic development and provide the research support often needed by new or expanding industries. In an *Alabama* report called "The Task Force on Economic Recovery," one of the major goals of the Committee on Industrial and Technological Development was to enhance and improve the research and graduate institutions of higher education in the state and to create a public awareness of the importance of technological progress. The Committee suggested initiating a program whereby universities would become directly involved

in efforts to recruit new businesses and industries.

In *Virginia*, the Task Force on Science and Technology recommended the establishment of a "Center for Innovative Technology," in which the major research universities in the state would work in cooperation with the industry. The proposal for the Center was submitted by three major universities in the state with the recognition that, "in the Commonwealth, economic expansion will depend, in part, on the ability of industry to improve its competitive position through the assimilation of high technology devices and processes, and the creation of new high technology." This, at least, implies a need for active research universities. Formation of the Center was approved by the 1985 General Assembly; it will be located at a site near Dulles International Airport in northern Virginia. The purpose of the Center is to "... facilitate the transfer of scientific knowledge developed in Virginia universities to industries involved with advanced technology products and processes." Other recommendations were suggested by the Task Force on Science and Technology, such as establishing and enhancing graduate programs in high-tech disciplines, encouraging part-time continuing education of those already employed, encouraging on-going participation by industry employers in the program, and establishing formal business-industry higher education liaisons at all appropriate colleges and universities.

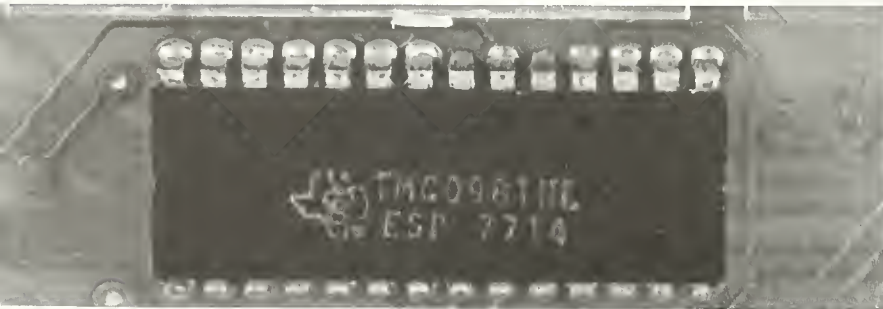
A somewhat different approach has been undertaken in *Louisiana*. The purpose of the Louisiana Innovation Center, established in 1983 at Louisiana

retraining programs for  
displaced workers





State University, is to evaluate the commercial and technical feasibility of ideas or inventions created in the state. The primary objective of the Center is to promote, encourage and stimulate technological innovation (through invention evaluation and incubation assistance) and, in the process, either formulate and develop small innovative firms or transfer new technology to existing firms. The Center was established with \$100,000 in state funds during its first year. A similar incubation facility has been established at the Georgia Institute of Technology in Atlanta. The Advanced Technology Development



Center (ATDC) was created in 1980 by the Governor and the General Assembly to act as a catalyst to attract and foster the growth of high technology industry in the state. ATDC offers a broad range of technical and managerial services and provides information to high technology firms considering expansion or relocation to Georgia. It supports technology-based entrepreneurs and small businesses, helps existing high technology companies with new product development, assists in the formation of venture capital, and conducts education programs.

One of the older, more notable links between university research and private sector needs occurred in *North Carolina* in the 1950's with the establishment of the Research Triangle Park (RTP). The Park is the largest planned research park in the United States. It is situated in the "triangle" formed by *North Carolina State University* in Raleigh, *Duke University* in Durham, and the *University of North Carolina* at Chapel Hill.

In *Tennessee*, an eight-mile "Technology Corridor" was established in 1982 after the Governor appointed a Task Force to study the feasibility of "utilizing scientific and other technical resources of the Knoxville-Oak Ridge area to facilitate expansion of existing technology-oriented industry and attract new high technology business to the state." The corridor stretches along the *Pellissippi Parkway*, from the *National Lab* in Oak Ridge to the *University of Tennessee* campus and the *Tennessee Valley Authority* headquarters, both in Knoxville.

## CONCLUSION

Southern Growth Policies Board member states are working on the linkage between education and training programs and economic development activities in a number of creative ways. The South often has led the way. Southern states are giving increasingly explicit recognition to the fact that improved educational and training systems will enhance state economic progress.

Southern states have fostered additional linkages as well. Vocational education and economic development are being linked through customized training programs and new links are being forged between economic development and other training ventures—e.g., programs linking the federal JTPA mandates to state programs, and programs linking enterprise zones to training and development activities. States are also considering training activities which will deal with life-time training programs using JTPA Title III funds, programs under JTPA Title II-A to help integrate training for the disadvantaged with industrial recruitment goals and innovative entrepreneurial training programs typified by the Southeast Oklahoma Rural Development Industry Program.

Over the last several years, states have become increasingly aware of the contributions which state university systems can provide to economic growth and development. Not only do universities provide professional and technical labor force participants, they can help industry meet its research and development needs. A number of SGPB states have initiated research parks, as well as innovation and development centers, to foster industry and university linkages. A quality university system can also help the state retain its valuable pool of high school graduates.

Naturally, economic reasons are not the only reasons states have been making improvements in their education and training systems, although they certainly undergird the efforts. Federal legislation has motivated the establishment of complementary goals and objectives and it has facilitated communication between human resource and economic development agencies and the private sector. Many of the involved agencies now sit together on advisory councils. A number of states have gone a step farther forming their own special councils or inter-agency advisory committees. Communication, cooperation and streamlined efforts have resulted. Several states, most notably *Mississippi* and *South Carolina*, have taken a comprehensive look at their economic development initiatives to ensure that special emphasis has been given to the role of education and training in those policies. □