

**REPORT OF THE  
CHANCELLOR AND THE  
VIRGINIA COMMUNITY COLLEGE SYSTEM ON**

**Virginia Community Colleges:  
The Commonwealth's Link  
to a 21st Century  
Quality Workforce**

**TO THE GOVERNOR AND  
THE GENERAL ASSEMBLY OF VIRGINIA**



**HOUSE DOCUMENT NO. 10**

**COMMONWEALTH OF VIRGINIA  
RICHMOND  
1993**



**VIRGINIA COMMUNITY COLLEGE SYSTEM**  
James Monroe Building • 101 North Fourteenth Street • Richmond, Virginia 23219

**November 3, 1992**

**Dear Governor Wilder and Members of the General Assembly:**

**The 1991 General Assembly, by House Joint Resolution 416, requested the Chancellor and the Virginia Community College System to examine the specific workforce training needs of the Commonwealth's businesses and industries and ways to ensure continued access to appropriate education and workforce preparation through community college programs.**

**Enclosed for your review and consideration is the Report, *Virginia Community Colleges: The Commonwealth's Link to a 21st Century Quality Workforce* that has been prepared in response to this Resolution.**

**Respectfully submitted,**

**Arnold R. Oliver  
Chancellor**

## P R E F A C E

In response to House Joint Resolution No. 416, authorized by the 1991 session of the General Assembly, the Chancellor of the Virginia Community College System appointed the VCCS Workforce Preparation Task Force to conduct this study.

*Partnerships for Excellence: The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce* served as a "blueprint" in developing the Virginia Community College System's workforce vision. Reports of other major commissions and/or study groups were also used, including: *The Case for Change* (Commission on The University of The 21st Century); *Quality Workforce Recommendations* (Small Business Advisory Board); *Report of the Joint Subcommittee To Study the Measures Necessary to Assure Virginia's Economic Recovery, House Document No. 37* (Economic Recovery Commission).

The Virginia Community College System acknowledges all those colleges, state agencies, and resource persons who shared their expertise and programs with the task force. At the Task Force Organizational Meeting, leaders in workforce development and education and training shared their concerns and vision for Virginia's 21st Century Workforce.

In conducting this study, workforce development programs and activities within Virginia's community colleges and across state agencies were overviewed. Further, high technology centers in Texas, Oklahoma, and Michigan were visited and briefings on related issues provided at the National Coalition of Advanced Technology Centers Annual Conference. The California Community Colleges hosted a visit with their ED>Net (Economic Development Network) Board and two member colleges, Glendale and El Camino. Dr. John Fabac, University of Texas at Tyler, presented the Texas Quality Workforce Councils concept to the task force.

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## **EXECUTIVE SUMMARY**

### **The VCCS As Change Agent**

**Building a 21st century world-class workforce is vital to the Commonwealth of Virginia's economic future. Within the decade, Virginia will intensify its participation in the global marketplace; the state's ultimate success as a player on the world economic stage will depend on the ability of its citizens to adjust to rapidly changing job conditions. Therefore, access to education and training is essential to long-term economic growth in the Commonwealth.**

**The Virginia Community College System is uniquely positioned to lead workforce training and education efforts. Virginia's community colleges provide:**

- **A local and regional client base**
- **Financial and geographical accessibility**
- **A unified administrative system**
- **Coordinated curricula**
- **Lifelong-learning opportunities**
- **Programs targeted to meet the challenges of rapid technological, occupational, and demographic change.**

**The Virginia Community College System stands prepared to sustain its role as the Commonwealth's vital link in 21st century workforce training and education.**

### **A Hub for Quality Workforce Development**

**Virginia's community colleges serve a culturally diverse clientele of over 224,700 students (a full-time equivalent enrollment of approximately 75,070) in 23 colleges, located throughout the Commonwealth. VCCS enrollment over the last three years has increased approximately 15 percent.**

**Contractual training arrangements exist with more than 700 businesses, industries and governmental agencies. Approximately 700 other special courses for Virginia employers, serving more than 21,000 employees, are provided annually.**

**The Virginia Community College System, in cooperation with local school districts and business/industry, provides 42 technology preparation -- known euphemistically as "tech prep" -- programs throughout the state. These programs feature a "seamless" curriculum from Grade 10 through two- and four-year degree**

programs, making available a new pathway to a college degree for a large segment of the Commonwealth's population who would otherwise not pursue higher education.

Numerous other projects represent the penetration of Virginia's community colleges into a wide range of business and industry training -- manufacturing technology programs, total quality management (TQM) training, and tailor-made training through business/industry/government centers and/or continuing education. Other workforce preparation activity includes work experience programs, pre-employment training, seminars/institutes, and multi-cultural projects.

Virginia's Community Colleges provide sites for the Center for Innovative Technology, Small Business Development Center (SBDC) delivery, the Quality Employee Development Network (QED), and Job Training and Partnership Act (JTPA) programs.

The Virginia Community College System has also established itself as a creative, innovative service provider to special populations and as an active partner with business, industry, government, and education in preparing "lifelong learners" -- world-class employees able to adapt to an ever-evolving high-tech environment.

### **Solutions to Workforce Issues Through the VCCS**

A national survey by The Southport Institute for Policy Analysis concludes that companies view community colleges as the best possible source for help in setting up workplace education programs. Fully 85 percent of firms surveyed saw community college participation as central in such efforts.

Virginia's community colleges must not only provide training and education, but must also position themselves as active partners with business/industry and economic development in the areas of workforce policy, workforce restructuring, technology delivery, and adult literacy. The VCCS must team with public education in developing lifelong learners.

In view of today's educational, occupational, social, and economic issues, Virginia's community colleges can:

- Enhance educational opportunity, helping to raise the level of educational attainment within the Commonwealth, considered vital to economic and social reform.
- Provide curricula and services to reflect occupational change, emphasizing growth in the services and workforce restructuring and technological changes within manufacturing.



- Help to close the "skills gap" among American workers by developing lifelong learners who have the level of skills and flexibility to endure rapid occupational change and compete in a global society.
- Assist in developing Virginia's world-class workforce by emphasizing basic skills, the integration of academics and occupational skills, and global education.
- Expand services and increase access for special populations, the most rapidly expanding segment of society and the greatest in need of educational opportunity.
- Rapidly respond to the needs of a changing workplace by devising effective educational and training programs.
- Increase involvement with and assistance to business and industry, especially in the areas of worker training and retraining and technology development.
- Enhance assistance to small business by providing affordable and accessible training and retraining.

## **A Framework for Change**

A Virginia Community Colleges *Quality Workforce Interlink* -- a network designed to bring the community colleges into a cooperative service mission with business/industry, government, and education -- is vital to the development of a 21st century world-class workforce in Virginia.

A strong, vibrant, and efficient world-class workforce can only be established in Virginia when all providers involved with training and retraining fully participate and work in unison.

Virginia's community colleges interact with numerous local and state agencies, economic development entities, schools, policy groups, and businesses/industries. By interacting and jointly seeking solutions to workforce issues, the community colleges can assist in streamlining, integrating, and providing continuous improvement in training and education services throughout the Commonwealth.

The VCCS proposes that the *Quality Workforce Interlink* be organized as described in Chapter Two. Interlink features include:

- **A statewide networking mechanism** -- The Interlink will be a forum through which community colleges and state agencies, education agencies, business, industry, and other special interest groups can interact, share information and act on workforce issues, policy, planning, resource development, delivery of services, and professional development.
- **A quality planning approach** -- The Interlink will take a quality improvement approach to planning and delivering workforce development services, determining what the user -- the "customer" -- needs and providing it.
- **A local, regional, and state focus** -- The Interlink will provide a mechanism for collaboration at the local, regional, and statewide levels. Virginia's Community Colleges would be divided into "regions;" each college would be represented on its respective regional council and responsible for networking within its local college service area. Community college regional council representatives and leaders from business/industry, economic development, and education will in turn collaborate through an Interlink Statewide Council.

### **The VCCS 21st Century Workforce Vision**

Over the past three years, Virginia's community colleges have endured alarming personnel losses. The number of full-time faculty has declined by 10 percent, and administrative and classified staff by slightly more. At the same time, enrollment has increased 15 percent. Under these circumstances, workforce development is a challenging mission -- difficult but attainable.

Creative resource strategies, innovative delivery systems, restructuring of curricula and services, and collaboration among business, industry, government, and education are seen as the means to new beginnings in workforce services for the VCCS. The elimination of duplication and inefficiency among education and training providers is also essential in quality workforce development.

The Virginia Community College System envisions itself as the Commonwealth's most dynamic and strategically positioned "broker" of workforce development, providing a full range of services, technological expertise, and resources to local businesses. The workforce issues facing Virginia and the nation call for community colleges to go beyond the traditional fare of degrees, certificates, courses, and contract training.

Workforce development must begin in elementary school, intensify during middle and high schools, and continue in force through undergraduate and graduate study. Further, it must follow into the work place and continue throughout life.

To enhance access to training and education, as called for in House Joint Resolution No. 416, the Virginia Community College System will:

- Integrate workforce development into all aspects of the college's curricula and services, tailor coursework and programs to serve a culturally diverse clientele and focus upon preparation of a world-class workforce of lifelong learners.
- Become strategically involved in setting and carrying out workforce development policies within the Commonwealth, strengthening ties with statewide, regional, and local education, business/industry, and economic development groups seeking solutions to workforce issues.
- Reach out to assist business, industry, and government in developing "high performance work organizations" that can absorb a diverse labor force, are capable of competing globally as well as locally, and can endure fluctuating and long-term economic crises.
- Concentrate on investment of time, talent, and resources toward a "restructuring" of the community college curricula, instruction, and services to meet the state and nation's workforce 2000 agenda.
- Develop "creative resource strategies" and initiate policy changes that will provide an effective solution to workforce development issues.

Through the *Quality Workforce Interlink* delivery system described in Chapter 2 and other recommendations put forth in this report, the Virginia Community College System will seek to put its workforce development vision into action.

The Virginia Community College System recommendations in response to House Joint Resolution No. 416, detailed in Chapter 3, follow.

**Recommendation 1:**

The Virginia Community College System should establish a "Quality Workforce Interlink" with business/industry, government, and education to provide coordinated planning, development, education, training, and technical assistance for preparation of the Commonwealth's 21st century workforce.

**Recommendation 2:**

Each of Virginia's 23 community colleges should create a "Workforce Service," strategically positioning Virginia's community colleges to be the Commonwealth's "brokers" for appropriate types of education and training within their respective service regions and "links" to economic development, business, or other entities involved with workforce policy and planning.

**Recommendation 3:**

The Commonwealth of Virginia, business/industry, economic development entities, and community colleges should develop a plan for jointly funding and strategically locating regional advanced technology training centers throughout the state.

**Recommendation 4:**

Virginia's community colleges should be a conduit for quality improvement –first, in institutional management and delivery of services and, second, in assisting business, industry, and government clients in the development and implementation of quality management programs within their organizations. Emphasis should be on standards and assessment that will ensure quality through systematic planning, team building, and customer-supplier relationships.

**Recommendation 5:**

The Virginia Community College System should seek state funding for training and retraining Virginia's workforce, utilizing an appropriate non-credit formula to ensure the capability of small and medium-size businesses to participate.

**Recommendation 6:**

The Virginia Community College System should implement a Distance Education-Telecommunications Network to assist in providing instruction, services, and professional development for the training and re-training of the Commonwealth's 21st century workforce.

**Recommendation 7:**

The Virginia Community College System should become the Commonwealth's key provider of small business education and training, with a focus upon curricula, instruction, and services that will encourage entrepreneurship as well as training/re-training for the existing workforce.

**Recommendation 8:**

**The Virginia Community College System should continue to provide major leadership and support for the establishment of technology preparation programs throughout the Commonwealth, in cooperation with the Department of Education, the Department of Labor and Industry, and local school divisions.**

**Recommendation 9:**

**Virginia's community colleges should utilize instructional delivery systems that reflect business/industry standards, are outcome driven, and provide for flexible scheduling.**

**Recommendation 10:**

**Virginia's community colleges should develop a comprehensive system of apprenticeship, technical, and professional certification and associate degrees in concert with the Department of Labor and Industry and the Department of Education.**

**Recommendation 11:**

**Virginia's community colleges should be leaders in expanding their linkages with local, regional, and state economic development initiatives/entities to assure adequate training and marketing.**

**Recommendation 12:**

**The Virginia Community College System should develop new linkages and restructure partnerships with senior institutions, public/private schools, and business/industry/government to provide education and training that is cohesive, complementary, and keyed to occupational and world-class standards across educational levels.**

**Recommendation 13:**

**Virginia's community colleges should improve and expand opportunities for adult workplace literacy, transition services and career development.**

**Recommendation 14:**

**The Virginia Community College System, in cooperation with the Commonwealth of Virginia and its multiple partners, should seek to develop and allocate adequate resources to fund the workforce development strategies essential to the education and training of a 21st century quality workforce for Virginia.**

## **CHAPTER 1**

### **THE VCCS AS CHANGE AGENT FOR VIRGINIA'S 21ST CENTURY WORKFORCE**

**Building a 21st century world-class workforce is vital to the Commonwealth of Virginia's economic future. Within the decade, Virginia will intensify its participation in the global marketplace; the state's ultimate success as a player on the world economic stage will depend on the ability of its citizens to adjust to rapidly changing job conditions. Therefore, access to education and training services is essential to robust long-term economic development in the Commonwealth.**

**The Virginia Community College System is uniquely positioned to lead workforce training and education efforts. Virginia's community colleges provide:**

- **A local and regional client base**
- **Financial and geographical accessibility**
- **A unified administrative system**
- **Coordinated curricula**
- **Lifelong-learning opportunities**
- **Targeted programs to meet the challenges of rapid technological, occupational, and demographic change**

**House Joint Resolution No. 416 (see Appendix A) afforded the Virginia Community College System an opportunity to reassess its mission, readiness, and commitment to economic development and workforce preparation. With the help of its partners in the fields of business, industry, government, and education, the Virginia Community College System stands prepared to sustain its role as the Commonwealth's vital link in 21st century workforce education and training.**

#### **A Hub for Quality Workforce Development**

**Virginia's community colleges serve a culturally diverse clientele of over 224,700 students (a full-time equivalent enrollment of approximately 75,070) in 23 colleges, located throughout the Commonwealth. VCCS enrollment over the last three years has increased approximately 15 percent, demonstrating Virginians' continued interest in the geographically and financially accessible and educationally diversified offerings of the state's community colleges. (See Appendix B for a complete VCCS student profile.)**

**Virginia's community colleges have a strong outreach base. Contractual training arrangements exist with more than 700 businesses, industries, and governmental**

agencies. Approximately 700 other special courses for Virginia employers, serving more than 21,000 employees, are provided annually through the Virginia Community College System.

The Virginia Community College System has also established itself as an active partner with education in the preparation of lifelong learners. There are 42 technology preparation -- known as "tech prep" -- programs being developed throughout the state, emphasizing the integration of academic and technical knowledge/skills and "seamless" curricula from Grade 10 through postsecondary programs.

Thomas Nelson Community College and Hampton City Schools are partners in the FOCUS program, designed to increase the college-going rate of middle-ability high school seniors. In yet another type of educational partnership, Thomas Nelson, the New Horizons Technical Center, and six public schools jointly sponsor the Governor's School for Science and Technology.

Numerous other projects represent the penetration of Virginia's community colleges into a wide range of business and industry training. The ability of the community colleges to serve the unique needs of Virginia's employers can be seen in degree/certificate programs in such areas as truck driving, forestry and paper technology, printing, industrial insulation, upholstery and cutting, greenhouse/nurseryman, home automation -- among others.

Central Virginia, Northern Virginia, Patrick Henry, and Wytheville Community Colleges are developing manufacturing technology programs -- including Computer Numeric Control (CNC), Computer Assisted Drafting/Computer Assisted Manufacturing (CAD/CAM), Auto-CAD, SmartCAM, and Computer Integrated Manufacturing (CIM). Total Quality Management (TQM) programs are currently available at more than nine colleges.

The breadth of delivery systems is evident through business/industry/government centers in over half of the state's community colleges. Several specialty centers are in operation -- in example, a Women's Resource Center, Blue Ridge Community College; Vocational Preparation Center for Single Parents, Homemakers, and Displaced Homemakers, Southside Community College; Procurement Assistance Center, Southwest Community College; Economic Development Centers, New River and Wytheville Community Colleges; the Philpott Technical Center, Patrick Henry Community College. Thomas Nelson Community College recently announced a new advanced technology center.

Other workforce preparation available in Virginia Community Colleges includes work experience, pre-employment training, and multi-cultural programs. Lord Fairfax Community College operates a mobile computer training laboratory. Thirteen Center for Innovative Technology (technology transfer) sites, five Small Business Development

Center co-sponsors, five Quality Employee Development network (EDD) hosts, and several Job Training and Partnership Act (JTPA) sponsored programs -- all further attest to the diversity of the state's community college offerings.

## **Solutions to Workforce Issues Through the VCCS**

A national survey by The Southport Institute for Policy Analysis concludes that companies view community colleges as the best possible source for help in setting up workplace education programs. Fully 85 percent of firms surveyed saw community college participation as central in such efforts. All other sources of assistance trail far behind:

- \* Local literacy councils or other community groups -- 44.5 percent;
- \* State governments -- 35.9 percent;
- \* Federal government agencies -- 20.6 percent;
- \* Business groups or trade associations -- 18.0 percent; and
- \* Trade unions -- 15.6 percent.

Virginia's community colleges must not only continue to provide education and training "on demand" to employers but must also position themselves as active partners in planning for the state's 21st Century workforce. They must network with business, industry, and government to address such vital issues as workforce policy, workforce restructuring, technology transfer, and adult literacy.

The Virginia Community College System must team with public education and senior institutions in developing "lifelong learners": world-class employees able to adapt to an ever-evolving high-tech environment. Of equal significance is the need to extend educational reform to out-of-school youth and adults who will constitute the bulk of the workforce for years to come -- three-fourths of the workforce 2000 is already in place.

Nevertheless, resolving today's workforce issues is more complex than the Commonwealth's citizens simply acquiring additional knowledge or participating in advanced skills training. Key educational, occupational, social, and economic issues that should drive community college planning for the 21st Century include:

- **Level of Educational Attainment** -- 21st century workers will need one or more years of postsecondary education to maximize employment opportunities. Currently, 56% of workers have less than one year of college. Of these, the highest percentage are employed in the three job categories with the fewest openings. Obviously, future employees must have ready access to college-level coursework to advance professionally in the workplace of the future.



The community college's extensive career, certificate, and course offerings -- as well as accessibility and flexible instructional delivery modes -- can afford maximum opportunities for the worker of tomorrow.

- **Occupational Change** -- Transition from an industrial to a service economy will continue in the nation at large and Virginia in particular. For example, while managerial/executive occupations will experience a high rate of growth in the 1990s, they will be eclipsed by demand for retail salespersons.

Other job categories experiencing substantial growth through the year 2000 include janitors and cleaners; secretaries; general office clerks; cashiers; registered nurses; and waiters/waitresses.

The manufacturing sector of the economy, growing less rapidly than services, is nonetheless more susceptible to automation and workforce restructuring. Further, increasing the state's production of goods is considered vital to a thriving Virginia economy.

Community colleges are key to the availability of training and education for those sectors of the economy experiencing the greatest occupational change. The bulk of education and training/retraining required for the 21st Century will be at the "technician" level.

- **Workforce Diversity** -- National forecasts predict that 80 percent of the net growth in the labor force will come from three groups: women, minorities, and immigrants. In Fall of 1991, 58 percent of VCCS students were women.

In 1991-92 in Virginia, community colleges served 18 percent of Hispanic, 44 percent of Native American, 37 percent of African-American, and 37 percent of Asian-American higher-education student populations.

Virginia's community colleges are in a unique position to increase access to workforce education and training for large segments of the Commonwealth's diverse population, for whom the community college has historically served as the state's prime provider of higher education and training/retraining.

- **Societal Patterns** -- Virginia's community colleges provide services to segments of the state's population who are experiencing the realities of societal change -- working single parents, two-earner families, and individuals caring for elderly relatives and extended families.

Community colleges can work cooperatively with employers to develop programs and practices that address the concerns of those affected by societal change. Examples of such include child and elder care programs,

training/retraining courses, on-site employee counseling, family enrichment, and parental involvement programs.

- **Local/Regional Workforce Dynamics** -- Increase in the labor force has been centered in the three largest metropolitan areas along the urban corridor of Eastern Virginia: Northern Virginia, Norfolk-Virginia Beach-Newport News, and Richmond-Petersburg. Other areas have been significantly affected by workforce displacement, such as the defense communities of Tidewater and Northern Virginia, and the mining region of Southwest Virginia.

As the focal point for education and training within their service areas, community colleges should play a significant role in tailoring solutions to local and regional workforce concerns.

- **Workforce Restructuring** -- To compete in a global economy, the Commonwealth's employers are increasingly pressured to make front-line workers more responsible for problem solving and management of the production process. Work teams and quality improvement are being integrated into the workforce structure of many companies. In other countries, front-line workers are better prepared to handle task diversification and team oversight of production processes.

The preparation of a world-class workforce calls for a strong foundation in basic skills, the ability to apply academics to skill performance, strong technological skills, and a global perspective.

Community colleges can emphasize these skills in their curricula, tailor-make training programs to assist specific businesses and industries, and team with their educational partners to develop world-class standards and delivery systems.

- **Skills Gap Perceptions** -- A recent Louis Harris study shows great disparity in what employers think about the caliber of new employees as compared to what students, their parents, and the general public perceive as the level of basic skills necessary to succeed in the work-a-day world.

Some examples:

A mere 10 percent of employers rated new employees positively on complex problem-solving abilities, whereas 57 percent of students rated themselves and 48 percent of parents rated their children positively by the same measure;

**Only 12 percent of employers rated new employees positively on writing abilities, as compared to 66 percent of students and 56 percent of their parents.**

**In collaboration with other training/education providers and business/industry, Virginia's community colleges can encourage the development of more realistic skills assessment, and in the process create lifelong learners who will have the flexibility to endure rapid occupational change.**

- **The Unique Needs of Small Business -- Approximately one-third of the nation's community colleges provide special services to small business, 18 percent help businesses obtain funding or loans, and roughly 13 percent help in contract procurement.**

**Small businesses are unable to achieve the economies of scale in training and technological development that characterize their large corporate counterparts. Through networking and collaboration, small businesses can combine their training and development efforts, conserving resources and pooling expertise.**

**The Small Business Advisory Board recommends the community college be the "vehicle" for providing specialized non-credit technical and productivity skill training/retraining for Virginia's existing workforce.**

**Virginia's community colleges are ideally situated to serve as the state's focal point for small business training and services.**

## **The VCCS Role in Workforce Development**

**The Virginia Community College System envisions itself as the Commonwealth's most dynamic and strategically positioned "broker" of workforce development, providing a full range of services, technological expertise, and resources to local businesses.**

**The workforce issues facing Virginia and the nation call for community colleges to go beyond the traditional fare of degrees, certificates, courses, and contract training. Community colleges must assist the state, region, and local business, industry, and government in analyzing workforce issues and delivering solutions.**

**There must be connections among all links in the chain of providers -- education, government, and business/industry -- if the Commonwealth is to develop lifelong learners who can survive and prosper through rapid technological, social, and economic change into the 21st Century and beyond.**

Virginia's community colleges are part of a continuum vital to workforce development -- workforce development must begin in elementary school, intensify during middle and high school, and continue in force through undergraduate and graduate study.

To enhance access to training and education, as called for in House Joint Resolution No. 416, Virginia's community colleges will

- Integrate workforce development into all aspects of the college's curricula and services, tailor coursework and programs to serve a culturally diverse clientele and focus upon preparation of a world-class workforce of lifelong learners.
- Become strategically involved in setting and carrying out workforce development policies within the Commonwealth, strengthening ties with statewide, regional, and local education, business/industry, and economic development groups seeking solutions to workforce issues.
- Reach out to assist business, industry, and government in developing "high performance work organizations" that can absorb a diverse labor force, are capable of competing globally as well as locally, and can endure fluctuating and long-term economic crises.
- Concentrate on investment of time, talent, and resources toward a "restructuring" of the community college curricula, instruction, and services to meet the state and nation's workforce 2000 agenda.
- Develop "creative resource strategies" and initiate policy changes that will provide an effective solution to workforce development issues.

### **A Framework for Change**

In *Challenges toward the Year 2000: A Report of the Chancellor's Task Force on the Role of the Virginia Community College System in Economic Development* (October 1989), several recommendations were offered that relate to the community colleges as providers of training and education and as partners in economic development.

In response to House Joint Resolution No. 416, the position of the current Virginia Community College System Workforce Preparation Task Force has been to augment and renew the vision set forth in 1989 -- but, more importantly, to recommend a delivery system for turning the vision into action.

Recommendations of other key policy and action groups were considered by the VCCS Workforce Preparation Task Force. The Virginia Community College System applauds the bold initiatives of *The Virginia Plan for Strengthening the 21st Century*

**Workforce**, and in this response to House Joint Resolution No. 416, sets forth to develop a parallel vision.

Other key policy and action groups -- such as The Economic Recovery Commission, the Commission on the University of the 21st Century, and the Small Business Advisory Board -- also played a major role in shaping the Virginia Community College System's workforce development recommendations, as outlined in Chapter 3 of this report.

Streamlining employment and training programs to make services more "user friendly" and cost effective -- as advocated in Virginia's Project Streamline and as in other legislation that proposes combining training and education services across Federal agencies -- has been a guiding principle in shaping the Virginia Community College System's workforce development recommendations.

The Virginia Community College System is also building upon Federal initiatives, primarily involving the development of tech prep programs and services/programs for special populations, sponsored under the Carl D. Perkins Vocational Education Act. Currently 44 tech prep grants are underway (at least one in each of the System's 23 community colleges), laying the foundation for "seamless education" between secondary and postsecondary levels of education and emphasizing the development of a world-class workforce in Virginia.

### **The VCCS 21st Century Workforce Vision**

Community college resources are limited. Over the last three years full-time faculty have declined by 10 percent and administrative and classified staff by slightly more. At the same time, enrollment has increased 15 percent. Under these circumstances, an expanded workforce development vision is challenging -- difficult but attainable.

Creative resource strategies, innovative delivery systems, restructuring of curricula and services, and collaboration among business, industry, government, and education are seen as the means to new beginnings in workforce services for the VCCS. The elimination of duplication and inefficiency among education and training providers is also essential in quality workforce development.

Through the Virginia Community College System *Quality Workforce Interlink* delivery system described in Chapter 2 and other recommendations put forth in Chapter 3 of this report, the Virginia Community College System will seek to put its workforce development vision into action. The following chapters chart a course for the Virginia Community College System to move workforce development to the forefront of its mission and to remain leaders for strengthening Virginia's 21st century workforce.

## CHAPTER 2

### DEVELOPMENT OF A QUALITY WORKFORCE THROUGH COLLABORATION

A Virginia Community College System *Quality Workforce Interlink* -- a network designed to bring the community colleges into a cooperative service mission with business/industry, government, and education -- is vital to the development of a 21st century world-class workforce in Virginia.

A strong, vibrant and efficient world-class workforce can only be established in Virginia when all providers involved with training and retraining fully participate and work in unison.

Virginia's community colleges interact with numerous local and state agencies, economic development entities, schools, policy groups, and businesses/industries. By interacting and jointly seeking solutions to workforce issues, the community colleges can assist in streamlining, integrating, and providing continuous improvement in training and education services throughout Virginia.

Organized along local, regional, and state lines of collaboration, the proposed *Quality Workforce Interlink* is a network that would emphasize quality improvement, maximize resources, and provide structure for change.

#### The Quality Workforce Interlink Structure

The proposed *Quality Workforce Interlink* will incorporate the following features:

- **A statewide networking mechanism** -- The Interlink will be a forum through which community colleges and state agencies, education agencies, business, industry, and other special interest groups can interact, share information, and act on workforce issues, policy, planning, resource development, delivery of services, and professional development.
- **A quality planning approach** -- The Interlink will take a quality improvement approach to planning and delivering workforce development services, determining what the user -- the "customer" -- needs and providing it.
- **A local, regional, and state focus** -- The Interlink will provide a mechanism for collaboration at the local, regional, and statewide levels. Virginia's community

colleges would be divided into "regions;" each college would be represented on its respective regional council and responsible for networking within its local college service area. Community college regional council representatives and leaders from business/industry, economic development, and education will in turn collaborate through an Interlink Statewide Council.

Several states have initiated projects focused toward quality improvement and streamlining of training and education. Two models observed and used in formulating the proposed Virginia Community College System Quality Workforce Interlink were the California Community Colleges ED>Net (Economic Development Network) and the East Texas Quality Workforce Council. Both models have been highly effective, with the East Texas model having received national recognition.

### **The Primacy of a Cooperative Service Venture**

The Virginia Community College System's proposed *Quality Workforce Interlink* is a vital delivery system for workforce development within the Commonwealth. *The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce* stresses the need for statewide cooperative training and education, comprehensive systems, and an increased emphasis on workforce policy.

MDC, Inc., and its Advisory Panel on Southern Workforce Development acknowledges the importance of improved workforce planning and services in addressing the Southern Region's sagging economy. Collaboration at the state and local levels is considered essential in providing the network of services and resources necessary to meet business and industry needs, especially within the small business sector.

The *Quality Workforce Interlink* delivery system addresses these concerns from the perspective of the community college. The Interlink can

- **Implement effective statewide coordination of workforce training:**

The array of workforce development providers in Virginia leads to user services that are frequently incohesive, duplicative, complex, and inefficient.

There are at least fifteen workforce education, employment, and training programs available in the Commonwealth. These programs are in turn administered through at least thirteen different state agencies, several of which operate regionally as well as statewide.

In addition, the state's 23 community colleges, private business and industry providers, economic development entities, local schools, and Private Industry Councils (PICS) are involved in workforce development.

*The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce* calls for streamlining of workforce services. Similar federal proposals are under consideration. The Virginia community colleges can take a giant step forward by putting into place a network that will improve the community colleges' interaction with the Commonwealth's multiple providers of workforce training and education.

- **Establish an enhanced interface among state, local, and regional economic development entities:**

The delivery of economic development within the Commonwealth of Virginia is complex, involving the efforts of state agencies, city/county governments, regional and local chambers of commerce, industrial development agencies and organizations, planning commissions, tourism and advisory boards, unions, and various financial interests.

The Department of Economic Development, Virginia Workforce Services, offers consulting, video production, funding, and training assistance to new and expanding businesses throughout the Commonwealth. Of 145 active projects, 35 are being conducted in partnership with the state's community colleges.

Joint Virginia Community College System and Department of Economic Development workforce planning and delivery could be enhanced through a networking system. An Interlink will create a stronger community college presence in economic development at the state, regional, and local levels.

- **Encourage technology transfer throughout the state:**

The Center for Innovative Technology, with technology transfer offices operating within 13 community colleges, offers help to small and medium-size companies with technology-related problems. A community college coordinating council could assist the Center for Innovative Technology in expanding its technology transfer programs and developing technology training/re-training funding initiatives.

- **Assist small businesses in obtaining training/education:**

Small businesses create approximately 70 percent of new jobs. As previously noted, the small business' most significant workforce need is training and re-



training programs -- the bulk of which is currently provided by community colleges.

Virginia's Small Business Advisory Board notes the need for the creation of a formal communication system between small companies and public agencies to improve this process, noting the maze of state agencies and bureaucracy as impeding training efforts for their segment of the economy.

- **Strengthen partnerships:**

The Virginia Community College System can serve as a "hub" for the development of "creative partnerships" that are focused toward identifying and meeting workforce development needs. *The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce* references several exemplary models, emphasizing the "dynamics of the partnership" as follows:

**...Higher education brings a view of current research and development efforts; teachers bring their knowledge of students; industry brings daily experience with technology. The result is both a vision and a tool for integrating technologies into the curriculum.**

Partnerships can enhance training and education by featuring local business advisory groups, school-to-work transition programs, business consortia, teacher internship and business exchange programs, field trips, adopt-a-school programs, and parental participation programs.

The Interlink can serve as a conduit for expanding community college partnerships and stimulating innovation throughout the state.

- **Serve as a mechanism to coordinate and concentrate educational levels and programs:**

Collective planning and coordination from pre-school through higher education is essential in the successful creation of a lifelong-learner population. Quality workforce planning can improve curriculum and instruction and address the social-economic-educational paradigm of learning.

It is also a means for addressing the needs of special populations --those who require early intervention, parental education, financial assistance, and transition services. The Interlink would enable the Virginia Community College System to coordinate efforts on behalf of special populations with Adult Basic Education, the Job Training and Partnership Act (JTPA) programs, and the proposed Youth-Employment Center Dropout Recovery Program.

- **Provide support for redirection of apprenticeships, professional certifications, and associate degrees:**

An acknowledged weakness of our educational system in comparison with other industrial countries is the integration of work experience into certificate or degree completion. Redirection is necessary if the Virginia Community College System is to function as a part of the "comprehensive system" of apprenticeship, technical and professional certification, and associate degrees called for in *The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce*. The Interlink can serve as a stimulus for this redirection and provide a nucleus for coordinated delivery.

- **Encourage development of occupational standards:**

There is significant inappropriate placement of the Commonwealth's citizens within both educational and occupational continuum. Yet to be articulated are criteria for "entry-exit" knowledge, nor have the required skill benchmarks for advancement within educational and training program levels been sufficiently clarified. Occupational standards have not been clearly established, nor have assessment practices been retooled.

The Interlink is a system that can bring together representatives of education and business/industry to address these issues and devise solutions.

- **Extend the global education emphasis:**

Project International Emphasis, a State Council of Higher Education "funds for excellence" grant program, provided a solid foundation for the delivery of global education within the Virginia Community College System. A *Quality Workforce Interlink* could serve as a building block for these efforts and provide an ongoing focus upon global education initiatives through the community colleges.

The *Quality Workforce Interlink* can serve as the change mechanism that will enable Virginia's community colleges to turn their quality workforce vision into action. Creative resource development, innovative delivery systems, strengthened partnerships, and supportive funding and policy: all are contingent upon linking Virginia's community colleges with education agencies, business/industry, government, and economic development interests. The recommendations in Chapter 3 detail a community college "vision" that can become a reality through a cooperative service mission.

## CHAPTER 3

### RECOMMENDATIONS

Aggressiveness, creativity, efficiency, and quality will be necessary in funding and delivering services for the Commonwealth's 21st century workforce. The success of workforce development cannot be measured by enrollment growth, faculty-student ratios, or geographical penetration -- it is a function of meeting the defined and prioritized economic and career development needs of the community college's multiple constituencies.

The mandate is clear: Given the nature of today's economic and workforce issues referenced throughout the preceding chapters, Virginia's community colleges are not only the ideal locus for workforce development but are also clearly the provider of choice. Effective implementation of workforce development strategies will be contingent upon the local community college's assessment of its service area's needs and the development and strengthening of multiple partnerships in pursuit of those needs.

In addressing local workforce development strategies, the benefits of statewide and regional shared vision, resources, technical services, and delivery systems are important to each of Virginia's twenty-three community colleges. It is from this dual perspective -- locally targeted solutions with the assistance of statewide and regional networking -- that the following recommendations are offered.

#### **I. Coordinating Access to Training and Education Through Quality Workforce Planning**

##### **Recommendation 1:**

**The Virginia Community College System should establish a *Quality Workforce Interlink* with business/industry, government, and education to provide coordinated planning, development, education, training, and technical assistance for preparation of the Commonwealth's 21st century workforce.**

Vital to the development of a 21st century world-class workforce in Virginia is government, education, and business/industry joining in a cooperative service mission. Virginia's community colleges interact with numerous local and state agencies, economic development entities, schools, policy groups, and businesses/industries in workforce development.

The ***Quality Workforce Interlink***, described in Chapter 2 of this report, is a Virginia Community College System network that would provide the community college, business/industry, education, government, and economic development interface necessary for cohesive workforce reform. Such a network will emphasize quality improvement, maximize resources, and provide a structure for workforce change through the community colleges.

The proposed Interlink has a local, regional, and statewide collaborative thrust. Each local community college will network with business/industry, education, government, and economic development entities within its service region. In turn, each local community college will be represented on a VCCS Regional Quality Workforce Council. A VCCS Interlink Statewide Council will bring together Regional Quality Workforce Council representatives with leaders from business/industry, economic development, education, and government at the state level.

The Interlink is seen as a "change vehicle" for the workforce development recommendations which follow.

## **II. Restructuring Delivery Systems To Serve a 21st Century Workforce**

### **Recommendation 2:**

Each of Virginia's 23 community colleges should create a "Workforce Service," strategically positioning Virginia's community colleges to be the Commonwealth's "brokers" for appropriate types of education and training within their respective service regions and "links" to economic development, business, or other entities involved with workforce policy and planning.

The Workforce Service is viewed not as a "facility" -- it is a collaborative concept, emphasizing referral and access to services of existing agencies and/or providers. Community college clients must be able to readily identify "who is doing what" on their behalf and to access services in an expeditious, nonbureaucratic, and quality manner.

The characteristics of the proposed "Workforce Service" at each community college would be:

- "One stop shopping" for business, industry, and government.
- A designated "account executive" to serve as broker on behalf of the college.

- The principal "point of contact" within a college's service region for business, industry, government, and economic development in planning, policy formulation, and delivery of workforce services.
- Sufficient standardization among the colleges so as to provide a statewide "identity" with community college services.
- Linkages to specialized training and delivery services throughout the state, nation, and world via a distance learning/telecommunications network

Further, each "Workforce Development Service" should, as a minimum, broker services available through the Center for Innovative Technology, Quality Employee Development program, Department of Personnel and Training, state training agencies, Department of Economic Development, Small Business Administration/Development Centers, and business/industry contract training. Linkage with the Commonwealth's proposed "Youth Work-Learning Centers" is essential to further training/education opportunities for young adults exiting the Dropout Recovery Program.

The Economic Recovery Commission calls for a "Virginia Enterprise Extension Service," based on the agriculture extension model, to be created to "develop the highest quality, most productive workforce in America by 2000." Such a service would complement and extend the "Workforce Service" concept proposed above and is recommended to be delivered from within the Virginia Community College System.

**Recommendation 3:**

**The Commonwealth of Virginia, business/industry, economic development entities, and community colleges should develop a plan for jointly funding and strategically locating regional advanced technology training centers throughout the state.**

Because of the variations in technology within the Commonwealth and regional differences in the business/industry base, it is recommended that Virginia explore the development of a "network" of technology centers and resources throughout the state. Industry-sponsored feasibility studies of local and regional technology training and service needs across the state is recommended, with information to be used as a basis for local community college planning and funding initiatives.

The Commonwealth of Virginia is under-represented among the several Southern states with advanced technology centers tied to two-year institutions, the level at which workforce training is most critical for the 21st Century. This places Virginia at a distinct disadvantage in attracting and maintaining a strong industrial base.

In a May 1992 interview, Dianne Long, Program Director, Technology Transfer, Center for Innovative Technology, points to the lack of technicians to sustain

manufacturing within the Commonwealth:

**The future of our economy is tied to manufacturing. We have allocated resources to management, engineering, and other professions. We have to come back to a focus on manufacturing, at the "technician level." This is where the relationship with the community colleges becomes key.**

**The occupational needs are in advanced manufacturing technology. This technology is too expensive to replicate throughout the state—regional centers, hooked through electronic distance learning and a statewide curricula, are essential.**

Increased support for Virginia's local technology center initiatives and a more extensive network of centers are clearly essential to Virginia's economic development. Thomas Nelson Community College has recently organized an advanced technology center. Efforts are currently underway at Wytheville Community College, through a Tennessee Valley Authority grant, to develop an advanced manufacturing technology center for Southwest Virginia. The Philpott Technical Center at Patrick Henry Community College and Central Virginia Community College are planning to expand their manufacturing technology facilities and programs.

Based upon these VCCS initiatives and VCCS Workforce Preparation Task Force external site visits to Texas, Oklahoma, and Michigan, as well as briefings by the National Coalition of Advanced Technology Centers, it is recommended that Virginia's community college technology centers -- as a minimum -- be established as collaborative community college ventures, linked to the states' local/regional business and industry base and sharing technological expertise and services. Further, the proposed technology centers should feature employment and training services, distance education/telecommunications, flexible instructional delivery systems, and residential arrangements that will allow timely, convenient, and affordable access for students or business/industry statewide.

Virginia already uses distance education to offer graduate-level engineering courses throughout the state; a similar community college delivery system could improve access to advanced technology at the two-year level.

**Recommendation 4:**

**Virginia's community colleges should be a conduit for quality improvement --first, in institutional management and delivery of services and, second, in assisting business, industry, and government clients in the development and implementation of quality management programs within their organizations. Emphasis should be on standards and assessment that will ensure quality through systematic planning, team building, and customer-supplier relationships.**

A Quality Improvement Network, sponsored through the proposed Virginia Community Colleges *Quality Workforce Interlink*, would build upon the several existing Total Quality Management (TQM) initiatives throughout the community colleges. Networking quality improvement initiatives will lead to shared efforts/resources, economies of scale, and grant development that will enable TQM to be accessible to all colleges.

Several approaches to delivery of quality improvement are noteworthy, as follows:

- **Community-Based Network** -- The Virginia Peninsula Total Quality Institute, administered jointly by the Chamber of Commerce and Thomas Nelson Community College, brings together local community businesses, civic organizations, government, and the local chamber of commerce for TQM training. A similar model with the Virginia Chamber of Commerce is being explored at the statewide level.
- **Institutional-Based Consortium** -- The recent awarding of a \$92,215 State Council of Higher Education Funds for Excellence grant to a consortium of community colleges -- Paul D. Camp, Central Virginia, Blue Ridge, and Lord Fairfax -- underscores the importance of quality improvement programs to Virginia's community colleges. The focus of this grant is to provide extensive development for teams of faculty, who will in turn implement TQM in their respective institutions and their communities.
- **Industry-Based Consortium** -- The California Community Colleges Supplier Improvement Program (CALSIP) provides training for suppliers to the aerospace industry. The industry-wide program is administered and training provided through the local community colleges, who become CALSIP providers through a grant application process. This model is ideally suited to private grant development.

#### **Recommendation 5:**

**The Virginia Community College System should seek state funding for training and retraining Virginia's workforce, utilizing an appropriate non-credit formula to ensure the capability of small and medium-size businesses to participate.**

Non-credit instruction, which can be flexibly adapted to the unique circumstances of particular industries and which can be delivered in short, intensive sessions, is frequently better suited for the development of competitive, high-performance work organizations than are credit programs.

Without state funding, business and industry will continue to pay the full cost for non-credit instruction. This is especially a hardship for small and medium-size businesses.

A state non-credit funding formula would emphasize: (a) Occupational skills and/or knowledge and (b) training/education for targeted populations such as welfare recipients, functionally illiterate, limited English proficiency persons, displaced homemakers, and the educationally disadvantaged.

To be eligible for state non-credit funding, non-credit courses would be required to carry CEU credit; meet requirements of the Southern Association of Colleges and Schools; be developed at the college, reviewed by the chief academic officer, and approved by the college president; be subjected to VCCS academic audits; and address high performance workforce needs. Courses for avocational or recreational purposes would be excluded from state funding.

**Recommendation 6:**

**The Virginia Community College System should implement a Distance Education-Telecommunications Network to assist in providing instruction, services, and professional development for the training and re-training of the Commonwealth's 21st century workforce.**

A Distance Education-Telecommunications Network is vital to the Commonwealth, as acknowledged by *The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce* and the report of the Lieutenant Governor's Economic Recovery Commission.

A proposed network -- planned by the VCCS Distance Education Implementation Task Force -- would provide an organizational structure for the administration of distance learning, equip each campus with an electronic classroom to make use of existing telecommunications resources, and establish a demonstration site for experimentation that could lead to design of a state-of-the-art statewide telecommunications network linking the colleges with businesses and students.

A Distance Education-Telecommunications Network would:

- Enable single community colleges to offer specialized courses for students throughout the VCCS.
- Encourage sharing of scarce faculty resources.
- Eliminate costly duplication of services by use of televised courses.



- Expedite service to Virginia businesses, industries, and governments, regardless of location.
- Enable the colleges to reach students/employees where and when they can take courses, rather than requiring them to be at a certain location at a certain time.
- Allow colleges to serve more students without new buildings or additional parking.
- Serve small groups of students for whom the cost of specialized courses at their local colleges cannot be justified.

The Northern Virginia Community College's Extended Learning Institute, distance education unit -- annually serving 10,000+ students -- is an example of the power of this technology.

VCCS colleges now account for over 16,000 extended learning credit course enrollments within Virginia, 5,900 of which involve the use of television. The remainder utilize print-based, computer conferencing, computer-assisted or audio tape course materials. In addition, roughly 6,000 students participated in non-credit teleconferences.

#### **Recommendation 7:**

**The Virginia Community College System should become the Commonwealth's key provider of small business education and training, with a focus upon curricula, instruction, and services that will encourage entrepreneurship as well as training/re-training for the existing workforce.**

The Small Business Advisory Board recommends the elimination of policies and procedures which restrict the ability of state agencies, **particularly the community colleges**, to provide specialized technical and productivity skills training needed by business and industry. Further, the Board urges that the community college be the "vehicle" for providing specialized non-credit training/retraining for the existing workforce (Quality Workforce Recommendations, Richmond, Virginia, October 1990).

In addition to changing the non-credit funding formula to make training more affordable to small businesses, the following are recommended to enhance access:

- **A workplace delivery mode --** Assists the small business owner and/or employee in devising solutions to *current* business problems. Training is delivered in the form of "consulting" and "diagnostic-prescriptive"

instruction, as opposed to the traditional course and/or seminar "cafeteria approach," removed in time and location from the small business trainee. Workforce Service Centers and a Distance Learning-Telecommunications Network can play prominent roles. Recognizing the traditional approach to small business training as ineffective, the innovative Francis J. Tuttle Business and Industry Center in Oklahoma City is presently converting to this model.

- **Combining services and training --** Joint training and provision of services enhances access for the small business sector and provides a laboratory for application of knowledge and skills.

The Bill J. Priest Economic Development Center, Dallas County Community College, houses the services and training functions together, providing for "hands on" application of training through incubators and ready assistance with planning and financing of ideas. In this configuration, the community college is the location of choice because it offers a broad range of education and training of interest to small business.

Blue Ridge Community College in its Economic Development Center and Thomas Nelson Community College in its Advanced Technology Center are working toward implementation of this service concept as they further develop their respective centers.

### **Recommendation 8:**

**The Virginia Community College System should continue to provide major leadership and support for the establishment of technology preparation programs throughout the Commonwealth, in cooperation with the Department of Education, the Department of Labor and Industry, and local school divisions.**

The United States must once again regain the competitive edge in the world economy through the development and implementation of first-rate educational programs. This can be accomplished, in part, by increasing the academic and technical literacy of our nation's workforce.

Tech prep programs, which provide a "seamless" system of academic and technical preparation in high schools and community colleges, increase expectations of students to pursue higher levels of math, science and communications and technical education. Tech prep emphasizes the partnerships between the education and business/industry communities, secondary and postsecondary education, and academic and technical education. Other components of tech prep include critical thinking skills, problem solving, work ethics, and preparation for further education and employment.

The Virginia Community College System was granted authority by the State Board of Education (which serves also as the State Board for Vocational Education) to administer the tech prep portion of the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. Tech prep programs are being established throughout the Commonwealth, but in order to make a significant contribution to the workforce needs of our state and nation, increased emphasis must be given to this important educational reform effort.

The Virginia Community College System is in a unique position to continue to provide technology preparation leadership to local school divisions and community colleges, and to intensify relationships with four-year colleges and universities.

**Recommendation 9:**

**Virginia's community colleges should utilize instructional delivery systems that reflect business/industry standards, are outcome driven, and provide for flexible scheduling.**

Each of Virginia's community colleges periodically conducts business/industry needs assessments. In addition, the Virginia Employment Commission, University of Virginia Center for Public Service, and the Department of Economic Development research and disseminate occupational information.

These assessments, however, frequently are based upon historical data and projections that, in an era of rapid technological change, may be quickly outmoded. To provide occupational training and education that is relevant and accessible in an era of rapid change, two delivery systems are recommended:

- **Statewide occupational standards** -- Identification of occupational standards and competencies, developed in collaboration with business/industry representatives and their employees, is essential. Education and training standards, criteria, content, and assessment should be focused on the performance required within specific occupations and across business/industry. Standards can in turn be tailored to local, regional, statewide, or global perspectives.

Performance benchmarks would enable the establishment of entrance-exit assessment points for programs, courses, and services along the K-12, postsecondary, and senior level education continuum. Such benchmarks are crucial in the implementation of "seamless education," as advocated through tech prep programs, and in serving the adult "re-entry" population.

- **Flexible scheduling** -- The displaced worker's need is *now* -- not "next semester" or "next year." The adult student with basic or workforce skills

deficiencies, or limited English proficiency, cannot be economically "on hold" while awaiting access to traditional course schedules.

The Francis J. Tuttle Technology Center in Oklahoma City is an exemplary open-entry/open-exit model -- featuring learning activities packages (print and media-based), instructional facilitators, computerized attendance systems, and individually scheduled completion times (with penalty for not meeting milestones). In a visit by VCCS Workforce Preparation Task Force members to this center, it was demonstrated that such open-entry/open-exit systems can work when properly planned, staffed, and delivered.

**Recommendation 10:**

**Virginia's community colleges should develop a comprehensive system of apprenticeship, technical, and professional certification and associate degrees in concert with the Department of Labor and Industry and the Department of Education.**

The community colleges should take the initiative to, as outlined in *The Virginia Plan for Strengthening the Commonwealth's 21st Century Workforce*:

- Convene groups of employers, labor, and educators to establish performance-based standards for a broad range of occupations in Virginia that would lead to technical and professional certificates and associate's degrees and
- Design integrated work-learning programs that transcend basic skills to include apprenticeships and technical education.

Lack of integrated work-learning programs through apprenticeship experience is an acknowledged weakness of our nation's educational system in comparison with other industrial countries and a deterrent to our competitive position.

Community colleges should explore creative approaches to eliminating work experience program barriers. Cooperative education and apprenticeship programs frequently fall victim to faculty release-time and full-time-equivalent student funding formulas. The mature, employed student chooses to forgo optional related work experience for permanent, full-time employment unrelated to his or her educational goals.

### **III. Enhancing Training and Education Through Economic Development Liaisons**

#### **Recommendation 11:**

**Virginia's community colleges should be leaders in expanding their linkages with local, regional, and state economic development initiatives/entities to assure adequate training and marketing.**

**The proposed Virginia Community Colleges *Quality Workforce Interlink* and local "workforce service" are a means for positioning the community colleges as brokers on behalf of economic development.**

**Each community college should be "strategically positioned" among major economic development policy groups within its service region, networking on issues, programs, and services vital to business/industry. Community colleges should be visible in the planning, policy development, and delivery ends of the economic development spectrum as well as in education and training.**

**Community colleges should assist their localities in exploring and developing training incentives for business; the costs of training, especially in today's rapidly changing technological base, are prohibitive to many small and medium size businesses. Adjustments in tax base, tax credits, and business certification requirements are examples of training incentives that can be used to stimulate sharing of training costs.**

**Community college workforce services should be an integral part of the local economic development marketing program and should include portfolio and video presentations on training/education services, inasmuch as these are important to the potential new business/industry client. Access to community college education and training services can make a major difference in business/industry location decisions.**

### **IV. Becoming Active Partners in the Commonwealth's Lifelong Education and Training Continuum**

#### **Recommendation 12:**

**The Virginia Community College System should develop new linkages and restructure partnerships with senior institutions, public/private schools, and business/industry/government to provide education and training that is cohesive, complementary, and keyed to occupational and world-class standards across educational levels.**

To ease transition, redirection, and continuing education for Virginia's lifelong learners, it is essential that the community colleges act collectively with K-12, re-entry, and senior educational levels in developing policy, services, and curricula. In its function as a "hub" for training and a "broker" for lifelong learning, the Virginia Community College System should focus upon the following:

- **Common Core of Learning** -- While Virginia's community colleges have developed a common set of "general education outcomes" for assessment purposes, it is believed that a "common learning core" that is integrated with other levels of education within Virginia is necessary if the Commonwealth is to maintain educational standards among the highest in the world.
- **Occupationally-Based Curricula** -- Revision and development of curricula that is tied to occupational analyses, reflects world class standards, and is performance/competency-based is essential. VCCS curricula should reflect statewide "cohesion" as well as local college involvement.

There should be direct involvement of advisory committees and employer/employee representatives in developing, validating, and implementing standards and competencies. The Develop a Curriculum Model (DACUM) -- which brings together business/industry representatives, employees, and educators to build curricula based upon occupational analysis -- is recommended to be implemented in the community colleges, with occupational competencies and standards building onto those identified for secondary curricula and feeding into those established by senior institutions.

- **Educational Entry-Exit Points** -- The Virginia community colleges should act in unison with other levels of education to establish entry-exit points for all programs and courses. These points should be based upon occupational and common core "benchmarks," easing transition and assuring appropriate placement throughout the educational system.
- **Occupational-Technical Four-Year Transfer** -- Enhanced transfer to upper level courses/degree programs is crucial if Virginia's goal is to develop lifelong learners. The recent four-year Transfer Agreement is a step forward; however, the transfer of occupational-technical education remains a challenge.

Adult learners do not neatly compartmentalize into the "freshman-sophomore-junior-senior" paradigm. Therefore, the upper-level transfer aspect of tech prep programs -- the State's lead vehicle for "seamless education" -- is recommended as the means for integrating academic and occupational curricula, while simultaneously meeting the needs of adult learners.

- **Lateral Transfer** -- To facilitate the implementation of regional technology centers, such as in advanced manufacturing, and accessibility through distance learning technology, statewide curricula that will permit lateral transfer within the community colleges and/or from one level of education to another is critical. Lateral transfer is also considered essential to geographic mobility for pursuit of opportunities within a global society.
- **Distance Education/Telecommunications Network** -- Distance education, linking VCCS colleges with each other and the outside world, will be essential for effective lifelong learning.

An exemplary model for the development of "lifelong learners" is *"MATRIX: Peninsula Partnership for the Future,"* an innovative joint program between Thomas Nelson Community College and the Virginia Chamber of Commerce. MATRIX is a comprehensive series of programs:

- ATOMS, introducing 7th/8th graders to high-tech workers and work settings;
- A regional Summer Math & Science Institute for rising 9th graders;
- A Mentorship Program for 1st through 12th graders;
- Student internships for 10th through 12th graders;
- Cooperative education for 11th through post-secondary;
- A Pre-Apprenticeship program for 12th grade students; and
- An Apprentice Program for post-secondary pupils.

This program illustrates the several concepts referenced throughout this report.

**Recommendation 13:**

**Virginia's community colleges should improve and expand opportunities for adult workplace literacy, transition services, and career development.**

Transition services should be designed that will enable re-entry adults to succeed in community college programs. Incorporating supportive environments, one-stop shopping, and timely assistance into adult transition services is essential.

Fragmented services deter adults from the pursuit of training and retraining. A University of Virginia, Center for Public Service, study found adults rank convenience and scheduling ahead of cost in their educational decision-making.

A pilot project out of the Adult Education Division of the Department of Education has established "Employee Development Director" positions at five of Virginia's community colleges -- New River, Patrick Henry, Paul D. Camp, Southside Virginia, and Wytheville.

The Economic Recovery Commission has called for Virginia to "act quickly to expand adult literacy and workplace training" by extending these positions to all 23 community colleges. The Virginia Community College System endorses the extension of these services to all of its campuses, and further recommends the "Quality Employee Development" network be operated through the community college "Workforce Service" system proposed herein (reference Recommendation 2).

The Bill J. Priest Economic Development Center of Dallas County Community College features "collective services" for their adult clients. They found that locating GED services in their center increased adult participation in lateral training opportunities as well as completion of the GED. Adults were more motivated by the community college environment, where they were able to simultaneously access literacy training, career development, and student life. Small business development and incubators, JTPA, career development, technology transfer, learning centers, and work experience programs were other featured services.

## **V. Increasing Access Through Creative Resource Development**

### **Recommendation 14:**

**The Virginia Community College System, in cooperation with the Commonwealth of Virginia and its multiple partners, should seek to develop and allocate adequate resources to fund the workforce development strategies essential to the education and training of a 21st century quality workforce for Virginia.**

The report *Greater Expectations, The South's Workforce is the South's Future* refers to workforce development as "resources in search of a plan":

**The Southern states are hardly new to the business of workforce development... Yet, the South is operating with institutions and programs that were independently designed and implemented. Many are random, fragmented responses to problems that at one time or another were on the political front burner. Operating independently, most are too narrowly focused, too modestly funded, and often too**



**hobbled by old institutional constraints to have more than a marginal impact on workforce preparedness. And in too many places in the South, employers see workforce development as a crazy-quilt pattern with a muddled mission parceled out among rival systems. (p. 29)**

The answer, the report contends, is in melding education and training resources into a coordinated system that will serve the South well and in establishing the postsecondary training and retraining systems demanded by our changing economy. In conjunction with state emphasis upon assisting employers in adopting new technologies, these state systems can "reshape the South."

The Virginia Community College System's answers to workforce development involve a commitment to drive creative resource development by augmenting budgeted funds and freeing monies through operations that are more streamlined and efficient. Quality workforce planning and a clear sense of "resource priorities" are essential if the Virginia Community College System is to enhance access and serve as a hub for workforce development:

- **Quality Workforce Planning** -- Quality is not a short term phenomenon. Long-term investment of resources in the Virginia Community College System will allow it to be a key player in workforce development and lead to a better prepared "world class" labor force.

Effective implementation and resource utilization must begin with funding of the start-up and ongoing costs of the proposed Virginia Community College System *Quality Workforce Interlink* (reference Chapter 2), a system for change. Two VCCS task forces -- Economic Development/1989 and the current Workforce Preparation Task Force -- have analyzed the issues and arrived at similar solutions.

While coordination and collaboration will cost time and money, it will also save time and money. Implementation of the proposals presented herein is therefore considered a top priority.

- **Systemwide grants program** -- A Virginia Community College System grants program would be a tool for effective planning and an incentive to innovative delivery of workforce development.

A function of the California Community Colleges ED>Net (Economic Development Network) is to convene annually to set goals and establish priorities, around which RFPs are developed and grant funding generated.

The Virginia Community College System's *Quality Workforce Interlink* could similarly effect a grants development program. Such a program would

accommodate large industries, government agencies, or other entities who would prefer to negotiate statewide versus with 23 individual localities.

- **Public-Private Initiatives** -- The Virginia Community College System, through its proposed *Quality Workforce Interlink* and local college development projects, should aggressively pursue creative public-private initiatives focused upon preparation of the Commonwealth's 21st Century Workforce.

The MATRIX program, referenced in Recommendation 12, is an example of the potential in public-private initiatives. A partnership between Thomas Nelson Community College and the Virginia Peninsula Chamber of Commerce, MATRIX is supported and funded by the NASA Langley Research Center.

The John Tyler Community College BIGS Center (Business, Industry, Government Services Center) is likewise an exemplary model of public-private initiatives. The BIGS Center was jointly funded by the college, Philip Morris USA, IBM, and several key corporations and businesses. Collectively over \$400,000 was made available to the institution to plan, develop, and install a new center on the John Tyler Chester Campus.

- **Training Incentives to Business/Industry** -- The Virginia Community College System endorses *The Virginia Plan for Strengthening the 21st Century Workforce* proposal that the Commonwealth implement incentives that will encourage employers "to develop continuous training programs for their current workers at all levels to assure their continuing development toward world-class standards..."

Community colleges should assist their localities in exploring and developing other types of training incentives, such as adjustments in the tax base, tax credits, and business certification requirements. Removing the cost barriers to noncredit education (See Recommendation 5) is an incentive that should be acted upon by the Commonwealth of Virginia to enable small businesses to access training.

- **Funding Models/Policy In Support of Workforce Development** -- The Virginia Community College System, in collaboration with the State Council of Higher Education and/or other State and Federal agencies, should adopt or revise appropriate State policies and procedures to provide incentives for faculty and institutions to work with business and industry in training and retraining.

Funding models for senior institutions, for example, take into account basic research as part of the faculty member's normal workload; similar consideration should be given to workforce development in the community college faculty role.

Further, faculty evaluation programs should be modified to include assessment of performance in the non-credit area. "Credit hour" workloads and student-teacher ratios are inefficient systems for service to the diverse needs of business/industry, emphasizing enrollment over educational outcomes.

An example of how outcomes can be emphasized is the inclusion of job placement in the faculty members' responsibilities at the Francis J. Tuttle Advanced Technology Center in Oklahoma City. Faculty members are allowed one day per week for this purpose and are accountable for percentage of placement -- the result has been almost 100 percent placement of students, and no need to fund a placement service.

## CONCLUSION

Virginia's community colleges are strategically positioned to lead workforce education and training because of their broad client base and history of service to business, industry, and government. Their hallmark is outreach to a diverse populace, productive partnerships with business and industry, degree programs targeted toward the level of occupations in greatest demand, a strong affiliation with small businesses, and a catalyst for innovation within the communities they serve.

Nonetheless, community colleges cannot change the Commonwealth's 21st century workforce alone. They can serve as a hub for business, industry, government, and education in addressing the state's significant workforce issues. The Virginia Community College System's proposed *Quality Workforce Interlink* is a network designed to bring the community colleges together with business, industry, government, and education -- not only on issues related to education and training but also workforce policy, workforce restructuring, technology delivery, and adult literacy. The network will also be a means to address the issues of complex bureaucracy, streamlining of services, and creative resource development.

The proposed *Quality Workforce Interlink* provides a systemwide framework for change. It is the creativity, resourcefulness, and quality with which each community college delivers workforce development that will move the Virginia Community College System to the leading edge of workforce reform. The effectiveness with which the community colleges assess their local workforce needs and develop action agendas will ultimately prove to be the Commonwealth's most viable link to a 21st century quality workforce.

**APPENDIX A**

**HOUSE JOINT RESOLUTION NO. 416**

## HOUSE JOINT RESOLUTION NO. 416

Offered January 22, 1991

Requesting the Chancellor and the Virginia Community College System to examine the specific workforce training needs of the Commonwealth's business and industry and ways to ensure continued access to appropriate education and workforce preparation through community college programs.

Patrons—Marshall, Woodrum, Jennings, Moss, Phillips, Council, Byrne, Diamonstein, Parker, Miller, Smith, Plum, Fisher, Cranwell, Marks, Hall, Johnson, Hawkins, Watkins, Bloxom, Reynolds, Cunningham, J.W., Quillen, Heilig, Dickinson, DeBoer, Clement, Munford, Van Landingham, Giesen, Callahan, Keating, Harris, R.E., Jackson and Cohen; Senators: DuVal, Goode, Gray, Houck, Andrews and Truban

Referred to the Committee on Education

WHEREAS, pursuant to Title 23 of the Code of Virginia, the Community College System diversified curricula, including "vocational and technical education leading directly to employment"; and

WHEREAS, over one-quarter century, the Virginia Community College System (VCCS) has grown extensively and now provides invaluable training and instruction to over 200,000 students annually through its associate degree programs, general, transfer, and continuing education programs, and other educational services; and

WHEREAS, the educational services offered by these institutions of higher education may provide not only personal enrichment but may also enhance economic development by preparing an effective workforce to meet the needs of area business and industry; and

WHEREAS, although several of Virginia's community colleges are already addressing the specific training needs of area industry through workplace literacy programs, regional economic development centers, and partnerships between higher education, business, and government, the expansion of these programs would further enhance educational opportunities as well as economic development in the diverse regions of the Commonwealth; and

WHEREAS, ever-increasing enrollments at the community colleges will require not only the expansion of ongoing programs and but also continued support for current and anticipated needs; now, therefore, be it

RESOLVED by the Houses of Delegates, the Senate concurring, That the Chancellor and the Virginia Community College System are hereby requested to examine the specific workforce training needs of the Commonwealth's business and industry and ways to ensure continued access to appropriate education and workforce preparation through community college programs. In conducting the study, the Chancellor and the Virginia Community College System shall consider, among other things, the unique educational needs of its student population, local and regional economic development efforts, and the appropriate balance between tuition and enrollment policies, available resources, and the multi-faceted mission of the community college. The Chancellor and VCCS shall consult with local economic development commissions, business and industry, and other community organizations to develop strategies to train an effective workforce of the 21st century.

All agencies of the Commonwealth shall cooperate with the Chancellor and the Virginia Community College System and, upon request, assist them in the performance of their duties and responsibilities.

The Chancellor and the Virginia Community College System are to make an interim report of their findings to the House Committees on Education and Appropriations and the Senate Committees on Education and Health and Finance during the 1992 Session of the General Assembly. The Chancellor and the VCCS shall complete their work in time to submit their final report and recommendations to the Governor and the 1993 Session of the General Assembly in accordance with the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

**APPENDIX B**

**VCCS ENROLLMENT AND STUDENT PROFILE**

# The Virginia Community College System

## Enrollments and Student Characteristics Fact Sheet

*Mission...The mission of the Virginia Community College System is to assure that all individuals in the Commonwealth of Virginia are given a continuing opportunity for the development and extension of their skills and knowledge.*

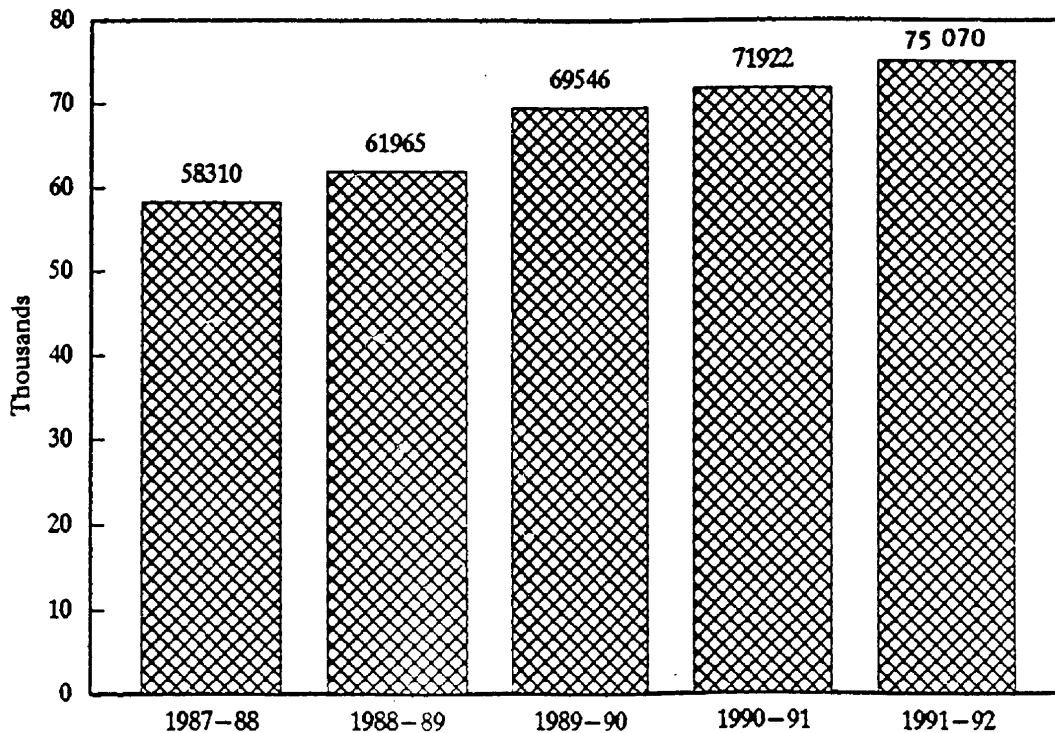
Virginia's community colleges offer programs in occupational and technical fields, the liberal arts and sciences, general education, continuing adult education, pre-college and pre-technical preparatory programs, and industrial training programs.

During the 1991-1992 year, the Virginia Community College System served 75,070 full-time-equivalent students in credit courses, representing more than 224,700 individual students.

Those students represented 41.8 percent of all on-campus students enrolled in public higher education institution in Virginia in Fall 1991.

Annual FTES has increased from 58,310 in 1987-88 to 75,070 in 1991-92. These growths amounted to an increase of 16,760 FTES or 28.7% during the five year period.

### VCCS Annual FTES



Source: AKT, End-of-Term

In addition, more than 700 Virginia businesses, industries, and governmental agencies have made contractual arrangements for training with Virginia community colleges. The colleges also conduct almost 700 other special courses for Virginia employers, serving more than 21,000 employees.

Virginia community colleges offer more than 220 different programs in which a student may receive either an Associate in Applied Science degree, an Associate in Arts and Science degree, an Associate in Science degree, Associate in Arts, an Associate in Applied Arts, a certificate or a diploma.

During 1990-91, the VCCS conferred 10,180 awards, including diplomas, degrees and certificates. Seventy-one percent of those awards were in occupational-technical programs which prepare students to enter the job market upon graduation. Twenty-nine percent were Associate in Arts, Associate in Science, or Associate in Arts and Science degrees which enable students to transfer to four-year institutions and complete a baccalaureate degree.

Developmental studies are offered to those students who need remedial work to take on the rigors of college courses. In Fall 1991, 20,315 students took one or more developmental courses.

#### *Facts About VCCS Students...*

In the last fifteen years, the proportion of women attending institutions of higher education has climbed steadily. In Fall, 1991, 58 percent of the students enrolled in Virginia's community colleges were women.

In Virginia's community colleges, 73 percent of the students enrolled attended part-time. In contrast, only 26 percent of the students enrolled in Virginia's public four year institutions attended part-time.

In Fall 1991, black students made up 13 percent of the VCCS enrollment. Twelve percent of the students who earned degrees, diplomas and certificates in 1990-91 were black.

The largest group of persons to receive graduation awards from community colleges in 1990-91 were between 25-34 years of age, or 34 percent of the total who earned awards. The percentage of graduates in the 35-44 age group was 20 percent; the 22-24 age group, 19 percent; and the 18-21 group, 19 percent.

The median age of VCCS students in Fall 1991 is 26.



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