
**Hampton
Roads
Partnership**

A White Paper

**High Stakes Accountability:
Skill Certifications in the New Economy**

Executive Summary

The region can be proud of the commitment of its leadership. Leaders in business, education, agencies and institutions have all rallied to the cry for a new paradigm in support of public policy for workforce development. We are ready to take some first steps in developing a systems approach that is demand-driven, i.e., responding to the needs of the business community for qualified and capable workers. The simple fact is that business needs workers trained for the new economy – an economy that is knowledge-based, where land and capital assets are valued less, and where human skills have become the strategic resource.

An economy dependent on human capital requires more and more workers that possess the necessary skills for the jobs of today and tomorrow. The change has been dramatic. In 1950, 60% of the jobs were unskilled, 20% skilled, and 20% professional. Today, only 15% of the jobs are unskilled, 65% skilled and 20% professional. Herein, lies the “disconnect”. Our existing and emerging workforce are unprepared for the jobs requiring specific skills, employers are faced with worker shortages, and a disproportionate number of our young people compete for a shrinking number of unskilled jobs that offer low-wages and little opportunity for advancement while good-paying jobs “go begging”.

We recognize that advanced training and education, and the whole notion of life-long learning, is a reality for today’s workforce. Our challenge is to guarantee that our young people have a solid academic education as well as the skills necessary to be competitive for jobs. However, we must first provide our children with feedback on their natural aptitude and stimulate interest in careers. We must become knowledgeable and then communicate the occupational opportunities that exist in this new economy. We must elevate the image of career choices – recognizing that technical education and technical jobs can be as sound a choice for future success as a traditional four-year college degree. We must develop curriculum and teachers that can respond to the changing workplace. We must provide linkages between K-12 and our community colleges to advance the competency of our emerging workers. Ultimately, we must provide our children with the necessary education and training to access the 65% of the jobs in this new economy that require skilled workers.

Role of the Hampton Roads Partnership

In its Strategic Plan, the Partnership recognized workforce development as fundamental to the long-term prosperity of our region. Neil Pierce stated it well; “No American state or region has ever made the development of people its core strategy for the future. It’s tougher work than administering tax giveaways. But the rewards will be infinitely greater.”

Representatives from business/industry and education have come together to lead this effort. Their collaboration and commitment to career and technical education will assure that entry level workers are prepared with certified skills and that programs are taught and aligned with national standard levels. This K-12 Initiative is a strategic part of the overall workforce development agenda and is offered in support of the efforts of the regional workforce development boards.

Over the course of the past year, the staff of the Partnership has been meeting with education and business leaders throughout the region and across the Commonwealth on issues facing our K-12 public education system particularly as they relate to workforce development. Without question, we find ourselves in an

“age of standards”. In education in Virginia, the most talked-about standards are the Standards of Learning (SOLs). In the workplace, the most talked-about standards are skill certifications. Both hinge on expectations and accountability. Both are aligned in recent Standards of Quality legislation that requires all schools in Virginia to guarantee that, “Occupational vocational programs shall be aligned with industry standards and professional standard certifications, where they exist.” (Skill certifications are industry-recognized credentials certifying that the holder has demonstrated competency on a core set of performance standards related to an occupational cluster area.) Secondary school systems in the region have begun to embrace the skill certification concept in an effort to significantly improve the quality and skill levels of graduates, as well as provide validation of their capability. However, through communication with professionals involved in the field, attention, interest, and resource commitment seems to vary widely across our school systems.

If we can unify Hampton Roads under one conceptual framework of skill certification standards for Career and Technical programs at the secondary level, we will be successful in creating a system recognized by industry and education as a measure of student preparation for the Hampton Roads’ workplaces of the 21st century. Our young people will be competitive for higher-paying jobs, businesses will be more competitive and other industries will view Hampton Roads as the location of choice based on the capability of its workforce.

Introduction

As we enter the 21st century, we find that there is a growing disconnect between the skills required in today's workplace and the capability of our workforce. While most of us recognize why this might be true in the Information Technology (IT) sector, there is also a growing skill crisis in many traditional occupational areas. The products of education providers and the success of the workplace are inextricably linked. The competitiveness of employers increasingly depends on their ability to use and further develop talent supplied by secondary, post-secondary and military institutions. At the same time, the future success of schools depends in large measure on the articulation of employer demands for more highly educated and technically talented graduates. The alignment and fulfillment of these needs has become critical in many parts of the nation, Virginia, and particularly here in Hampton Roads.

As the knowledge base and skill sets required for success in the new economy continue to increase, there is a corresponding demand for clear tools to convey an individual's competency. This demand is evident in the proliferation of certificates and certificate programs in every industry across the country. Traditional means of conveying competency, i.e., high school diplomas, associate degrees and even bachelors degrees no longer provide would-be employers with adequate information to assess an individual's skill competency – a necessary requirement for many of today's jobs. This White Paper will explore the necessity for skill certification in the new economy.

Some facts to consider:

- ◆ Since 1990, the number of certificates awarded by post-secondary institutions for short-term training courses (less than one year) has increased by 130%.
- ◆ Certificates now represent 30% of all sub-baccalaureate awards.
- ◆ As of January 2000, the IT industry alone awarded at least 1.7 million certificates.
- ◆ In 1999, US businesses spent \$63 billion on new and incumbent worker training.
- ◆ Nearly 5 million community college students participate in non-credit, workforce-related training each year.
- ◆ Industry associations and employers, as well as four-year colleges, technical institutes, web-sites, community colleges, community-based organizations and corporate universities offer certificates.
- ◆ Students and workers can earn certificates that represent a broad range of content and outcomes including vendor-specific skills to academic credit to seat-time.

(National Alliance of Business, August 2000)

What is Skill Certification?

In a recent report (March 2000), the National Alliance of Business (NAB) speaks to skill certification, "It is paramount for employers, employees, educators and trainers to know at any given time the competency demands of the workplace. Increasingly, skills certificates represent the "shorthand" for this information and are becoming a valuable new currency in the job skill market."

For the purpose of this white paper the following two definitions need to be made:

SKILL CERTIFICATE - Portable, industry-recognized credentials that certify the holder has demonstrated competency on a core set of performance standards related to an occupational cluster area.

Serving as a signal of skill mastery at benchmarked levels, skill certificates may assist students/workers in finding work within their community, state, or elsewhere in the nation.

SKILL STANDARD - Specifies the level of knowledge and competence required to perform successfully in the workplace. Standards are being developed along a skill continuum: (1) general work readiness skills, (2) core skills for, or knowledge of, an industry, (3) skills common to an occupational cluster, and (4) specific occupational skills. Standards may cover basic and advanced academic competencies, employability competencies, and technical competencies. Development of these standards is tied to efforts to certify students' and workers' skills.

Certification has also been described as competence in the ability to perform the duties of an occupation and indicates a person's achievement of predetermined standards. It offers a benchmark for assuring that the individual possesses the qualifications required for employment in a given occupation or occupational specialty. It involves learners in an educational process for achievement of competencies required by national or state regulations (e.g., teacher certification); professional associations or organizations (e.g., Certified Public Accountants [CPAs]); or industry certification (e.g., Novel Certified Engineer) (America's Learning Exchange n.d.). Certification is a non-statutory requirement, which distinguishes it from licensure. Licensure, a more restrictive regulation, grants individuals a legal right to practice a profession given the minimum requirements established by the profession are met. (Brown 1999).

In the IT arena, detailed work has been accomplished by the Northwest Center for Emerging Technologies (NWCET) through a National Science Foundation grant and American Electronics Association funding. They have developed a set of eight IT career clusters and accompanying functions, tasks, technical skills, foundation skills, and performance criteria. The eight career clusters are:

- ◆ Database development and administration
- ◆ Digital Media
- ◆ Enterprise Systems Analysis and Integration
- ◆ Network Design and Administration
- ◆ Programming and Software Engineering
- ◆ Technical Support
- ◆ Technical Writing
- ◆ Web Development and Administration

In Appendix A, the NWCET document lists related IT job fields and accompanying K-16 education providers. This chart is somewhat inaccurate due to the fact that locally in Virginia Beach Schools some students are taking and passing three vendor certifications (Novell CNA, Microsoft NT and A+) before even entering the workforce or the next level of education. Some forward-thinking students are graduating from high school with more than a diploma in their hands. Thanks to certification programs developed by high-tech companies such as Microsoft, they're leaving school armed with the skills and experience needed to walk right into well-paying, high demand jobs. (Enos 2000) The great benefit of skill certification is for those students who demonstrate competency at industry-developed skill levels. They find that they have increased job security, greater opportunities for career advancement, and the ability to enter post-secondary education through articulation of programs.

According to *Virginia's Changing Workplace: Employers Speak*, "The desire for more education is reinforced by pressure from both within the occupation and outside of them. ...[M]ore workers need some kind of official requirements for certification, and requirements for certification almost always include

formal training. Thus more and more occupations require some kind of credential - a certificate, license or some type of degree."

Rationale for Change

In 1994, the National Skill Standards Act (NSSA) called for the creation of skill standards for a broad range of industries and occupations. The work is ongoing as of this writing. This work is evidence of the requirement to shape and improve education and training programs to match the needs of employers and industry. New skill credentialing procedures enhance graduates employment and education options, however the demand for credentialed graduates far outstrips the supply.

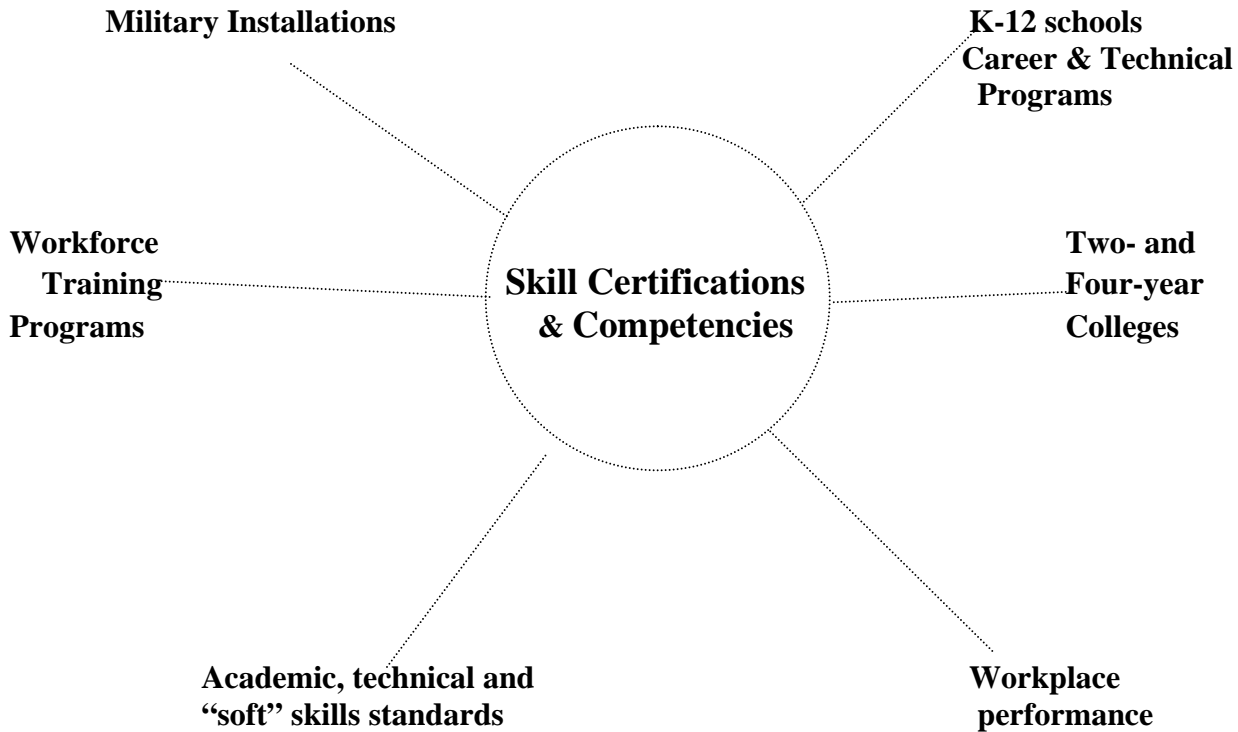
For example, the Information Technology (IT) sector of the economy has reported that there are presently 10 million workers with an estimated demand for 1.6 million workers over the next 12 months. Half of the shortage, or 850,000 workers, is in tech support and data base development. In Northern Virginia, the shortage has been reported to exceed 30,000, and locally in Hampton Roads the figure is 5,500 vacant IT related jobs.

"Employers today aren't looking for bachelors degrees as much as they are skill sets and certifications." (Hopkins, 2000) This statement from a local Virginia Employment Commission official is typical of the dialogue surrounding the certification issue. Currently, many secondary and post-secondary educational institutions and military installations in Hampton Roads are providing potential workers with some varying degree of skill certification. Many educational institutions provide both competency certificates for successful seat time in class and in some areas, skill certification through a third party testing agency. However in most cases, graduates from local high schools and colleges are not able to validate any IT specific skills due to a lack of awareness of the need or availability of certification tests. According to the Bureau of Labor Statistics, "Within three years, 95% of all new jobs nationwide will require a moderate, if not keen knowledge of computer systems and functions, with a special emphasis on Internet know-how." Approximately 5 million students, particularly those with liberal arts degrees, have no way of demonstrating their qualifications for jobs requiring technology skills. (Dalch 2000)

The fact that standards-based educational reform has been in the news forefront is proof enough that changes in secondary education are underway. Much of the clamor for school reform has been created by a growing sense on the part of the public of the "disconnect" to which we continue to refer – young people ill-prepared to succeed in the workplace. Faculties and programs that support Career and Technical Education are being reduced, partly because we seem unable to provide a solid basic academic education as well as a strong technical education (they seem mutually exclusive), and partly because as a society, we have continued to undervalue technical education at a time when the economy values it more than ever before.

Our nation faces a new frontier of knowledge, information, and change. Roles for business and education need to be re-defined and plans need to be formulated for implementing programs that will benefit both industry and workers. This is an exciting opportunity. Schools and school districts will continue to face changing educational, economic, and social demands that call for creative far-sighted responses. Increased international competition, a shortage of skilled workers, and the influx of technology have drastically affected the American workplace. Career and Technical Education, just as academic education, must be viewed as a lifelong education process. An innovative approach to skill certification is to view it as a unifying force between programs and institutions as outlined in the figure below.

A Single Unifying Device in K-80 Learning



Modified from *NAB Work America*, March, 2000

Skill certification and competencies can serve as a unifying force because they clearly convey the individual's competency to the employer – it serves as the “communication mechanism” that education/training institutions, employers and employees understand.

Career and Technical Education

Today, jobs in Virginia demand higher skill levels from more individuals than are now in our Career and Technical Education training programs. In addition, if Virginia is to continue to attract new business and industry the need for workers with new and advanced skills becomes even greater.

Education planning can influence course offerings, enrollments, financial support and careers for the students in the Career and Technical Education programs. Career and Technical Education takes place in a fluctuating environment of diverse and changing constraints and special interests. To maintain effectiveness, Career and Technical Education administrators must be willing to adapt, grow and even change, if they are to serve their students and the community.

Additionally, there is a role for the region's leadership in supporting the needs of Career and Technical Education in the region's school districts. It has become increasingly apparent that to guarantee economic

vitality for our region and secure a high quality of life for our citizens, we must prepare our young people to be competitive in the world of work.

Skill certification for select Career and Technical Education programs represents an important partnership opportunity for business. In response to business concerns about workforce productivity and the need for increasingly sophisticated skills training to meet the demands of technical competition, the National Alliance of Business has joined forces with education, training and business organizations to increase business involvement in, and support for, the nations education system.

The time-honored approach to Career and Technical Education can no longer suffice at a time when technologies are changing rapidly and job obsolescence is a recurring reality. The current national dialogue on skill certification offers our region the opportunity to define the challenge, sort out responsibilities and develop coordinated strategies. In effect, it will lead to new partnerships, innovative approaches, and new vigor and excitement that will renew respect for Career and Technical Education in Hampton Roads and the Commonwealth.

Image of Career and Technical Education

It has been indicated in recent national reports that the United States is no longer the unchallenged economic leader of the world. Similarly, the educational community is confronted with challenges of its own. Business and academia are turning to each other with increasing frequency in an attempt to reach mutually beneficial solutions. These partnerships are a two-way street, reflecting a growing awareness by the two communities of reciprocal interests and challenges.

Career and Technical Education faces an unusual dilemma. Business and industry recognize the growing importance of technical education as part of the secondary education system. However, the public perception, especially that of parents, is one that devalues Career and Technical Education as a “second-choice” – even “second-rate”. Reforms that are sweeping the country that require increased graduation requirements, are on the verge of squeezing out Career and Technical education from the secondary curriculum. Many business people would like to see more students attracted to Career and Technical Education programs. They believe the true story of Career and Technical Education needs to be told to students, parents, and counselors through an image building campaign. Educational marketing, once a disdained term, has become a necessity. Declining enrollments and poor image problems are two excellent reasons for the marketing of Career and Technical education. One of our national priorities is to keep in step with the changing nature of available jobs and to assure that today’s youth are adequately prepared to compete in the job markets of tomorrow. We need to build an awareness of what opportunities exist.

The reality is that high school Career and Technical education is downgraded and assigned second class status especially trade and industrial programs. A common misconception is that Career and Technical education trains students for jobs that are low paying and have no upward mobility. The perception is that Career and Technical Education typically prepares youth, especially males, for blue-collar, hand occupations. Because most middle-class parents devalue any high school program that is not a prerequisite for admission to a four-year college or university, they devalue vocational education. Consequently, school officials often view and use some vocational programs as a 'dumping ground' for less able students.

Problems with the image of Career and Technical education suggest that it suffers from being conferred generally lower status than academic education, particularly at the high school level. The status problem affects vocational education at the federal level, in the state governments, and in the administration of

Career and Technical programs in local school districts. The detrimental effects of this inferior status are nowhere more apparent than in comprehensive high schools everywhere, in which Career and Technical education is often over-looked or slighted in favor of college preparatory education.

Supporters of Career and Technical education must communicate continually as change takes place in programs, graduates leave and new students enter, and innovative teaching concepts come on the scene. In improving the image of a Career and Technical education opinions must be changed since a majority of negative opinions regarding Career and Technical education have been formed through widespread misconceptions and inaccurate information.

Marketing strategies and business education partnerships are a means of improving secondary Career and Technical education. The fruits of such a contribution could be the recognition and general application of new mechanisms for coping with economic and enrollment decline in an era of technological growth and educational reform. Partnering with business regarding the concept of skill certification could easily become a win-win situation.

Current Efforts in Hampton Roads

In 1999, the Virginia General Assembly voted to change the Virginia standards of quality (SOQ) legislation requiring of all schools, “ 22.1-253.13:1,B..... Occupational vocational programs shall be aligned with industry standards and professional standard certifications, where they exist. This regulation now speaks volumes in Virginia by the stipulation that all Technical and Career programs at the secondary level subscribe to a higher level.

By organizing curriculum around nationally recognized skill standards, technical and career programs at the secondary level have embraced this new initiative as a way of improving programs. These new credentialing procedures offer a means of enhancing graduates employment opportunities and increasing their educational options.

Many of the school systems in Hampton Roads have begun this process and are offering varying degrees of IT certifications and traditional skill certifications. The Virginia Board of Education has approved certifications for eligible students to receive the state Board of Education's Seal of Advanced Mathematics and Technology. The Seal will be awarded to students who earn either a Standard or Advanced Studies Diploma, satisfy all of the mathematics requirements for the Advanced Studies diploma with a "B" average or better, and either (a) pass an examination in a career and technical field that confers certification from a recognized industry or trade or professional association, (b) acquire a professional license in a career and technical education field from the Commonwealth of Virginia, or (c) pass an examination approved by the Board that confers college-level credit in a technology or computer science area. The list of certifications that the state recognizes at the secondary level as of this writing can be seen in Appendix B.

While some local school divisions offer more skill certifications than others, it is generally accepted among practitioners that skill certification is an idea whose time has come.

Conclusion

While skills certificates are tied less to traditional academic venues such as diplomas or degrees, they are poised to become the single unifying device for communicating knowledge and skills among the K-12 schools, school to work programs, two-and four year colleges, workplace training programs, and employers.

Support for skill standards must grow if we are to develop the workforce necessary for our region to compete in the New Economy. Education and business will need to join together in order to take full advantage of skill certifications and the enhanced career opportunities they bring to students and the community. Certainly, the 21st century will be a different world in terms of knowledge acquisition and skill certification attainment. Unless skill levels improve, the skilled worker supply pipeline will continue to run thin. A comprehensive systematic response to skilled worker training will help guarantee that our region is in the forefront of addressing this critical labor market issue.

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