



Dr. Michael F. Fitzpatrick
Superintendent-Director

Blackstone Valley Vocational
Regional School District
Upton, Massachusetts

PREFACE

The Changing Face of Career and Technical Education was a position paper written in 2006 to improve understanding of the way vocational technical schools have changed to meet the higher skill requirements of the global workplace. That paper built upon five then-current national education reform reports, including the 2005 Report of A National Task Force on Public Education and the 2004 National Assessment of Vocational Education's Final Report to Congress. In the six years since that paper was originally conceived, global and national economies have been drastically eroded and calls for education reform have grown more strident. Several recent education projects and studies have highlighted the need to prepare all students for career and college readiness in order to maintain our nation's standing in today's troubled global economy. This revision of the original position paper is intended to continue the conversation with the benefit of these more recent studies.

Dr. Michael F. Fitzpatrick - September, 2012

*Superintendent-Director, Blackstone Valley Vocational Regional School District
Upton, Massachusetts*

The Changing Face of Career and Technical Education, Part II

Foreword

Today, there is nationwide debate about how education must be tailored to meet the needs of a struggling global economy. There are many viewpoints on how to prepare students to be productive members of a technologically-savvy, global society. What is the mission of career and technical education (CTE) in the 21st century quest for effectiveness and relevance in education?

As a CTE practitioner for more than forty years, I have long battled the stereotype that vocational technical education is an alternative educational path for students who have experienced limited academic success and require an educational program that focuses primarily on the psychomotor skills needed for a particular trade. While this faulty perception is commonly held, federal legislation has always defined a mission for CTE that is more workforce-responsive and economy-sensitive.

Despite a growing understanding of the far greater technical skills now required in just about every trade or employment scenario, I still all too often hear constituents express the sentiment that they would prefer to see more CTE students directly enter the trades as plumbers, carpenters, etc., rather than first go on to a two- or four-year college. Because interest in attending many high-quality career and technical systems is keen and all applicants cannot be accepted, many feel that when a student attends a vocational technical high school and then goes on to college, the college bound student has unfairly displaced a student who desires a trade education.

Have CTE delivery systems lost sight of their mission? Is the investment in vocational technical education no longer paying the dividends that it did when carpenters, machinists, and auto mechanics graduated from high school and became immediate, productive additions to the local workforce?

This paper outlines the compelling reasons for significantly upgrading the public perception of the mission of CTE today. Many of us who work in the field have seen the changes evolve gradually and have embraced new approaches which enable us to better serve the needs of our students and the demands of the information-age workplace.

In today's increasingly global and complex society, it is no longer possible for the United States to maintain its economic advantage without tapping into the potential of all its workers. Every student, whether he or she chooses a traditional educational path or career training by way of a CTE system, must be equipped with a set of basic skills that is far more sophisticated and advanced than that required in the manufacturing-based economy of fifty years ago.

The workforce of the 21st century demands greater knowledge and more complex computational, communication, teaming, and technological skills of its workers. The American public must therefore acknowledge a new role for the CTE delivery system: a role that prepares students for lifelong learning in order to effectively respond to our nation's ever more challenging workforce development needs.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

The Historical Foundation of CTE

With the onset of the industrial revolution in the early 19th century, the United States and other developed countries shifted away from an agricultural economy where the focus was on manual labor. At that time, most young people were required to help out on the family farm and few received an education beyond literacy and computational basics. The curriculum that most traditional high schools follow today has its roots in the 19th century when two kinds of knowledge were clearly distinguished from each other. Practical knowledge helped people make a living and contribute productively to the community; while theoretical knowledge, like the study of poetry, philosophy, and religion, was reserved for the elite upper classes. The vast majority were trained to service the rapidly growing industrial and manufacturing economies and were taught the basic skills needed to do so. Creativity was often squelched in the average person in favor of the useful knowledge that put food on the table.

The Smith-Hughes Act of 1917 is widely recognized as the decisive piece of federal legislation which created vocational technical education. This law provided federal funds to support the teaching of agriculture, the trades, home economics, and industries. It created a Federal Board for Vocational Education to consist of the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the United States Commissioner of Education, and three citizens appointed by the President. The three citizens were to be representatives of manufacturing and commercial interests, agricultural interests, and labor. The language of the Act made it clear that the controlling purpose of vocational education at that time was to produce workers that were “fit for useful employment.” The composition of the Federal Board also evidenced the close connection between the new educational format that was being introduced and economic influences impacting our nation’s prosperity at that time.

The Smith-Hughes Act and the Wagner Act of 1935, which protected workers’ right to unionization, responded to a manufacturing-driven economy. The intention of vocational technical education was to train students to do repeatable tasks with dexterity in an environment where little judgment was required. At the time, about 20% of students were considered to be college-bound, 20% of students were destined for vocational technical training, and the remaining 60% were thought to just need a general education.¹ The high school diploma became the entry-level credential for an industrial-age factory job, although the availability of well-paying manufacturing jobs paved the way for even high school dropouts to achieve a middle-class lifestyle.

In the early vintage of assembly line vocational technical education, it was fashionable to offer students academic basics and a blend of trade psychomotor activity and related theory. Although the intent of Smith-Hughes was clearly focused on meeting overriding national workforce needs

¹Cynthia G. Brown, et al., Report of A National Task Force on Public Education, *Getting Smarter, Becoming Fairer: A Progressive Education Agenda for a Stronger Nation*, (Washington, DC, 2005), p. 15.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

rather than the educational needs of a few, the vocational technical setting offered an opportunity for those with manual dexterity to thrive. Eventually it was seen as a second chance for students who had struggled in the traditional classroom or who were deemed better suited to hands-on learning. The vocational technical school of the mid-1900s would allow so-called “behaviorally-challenged students” to become wage earners and to escape the rigors of a “traditional” education. By shifting the educational responsibility of those students to the vocational technical delivery system, the non-vocational technical local educational agency (LEA) had a convenient and potentially justifiable referral.

Ironically, if the sending system could not transfer the educational responsibility to the technical partner, the most common alternative for the academically challenged was the local “general track” program.

Eventually, the general track found itself with a bulging enrollment, declining relevance, and educational pundits clamoring for its demise. With image issues and empty seats, the vocational technical network was ill-prepared to challenge the status quo, and thus the stereotype of CTE as a lower echelon educational option evolved.

Pulitzer Prize-winning novelist Frank McCourt describes his experiences as a teacher in the vocational technical high schools of New York City in his 2005 book, *Teacher Man*. He introduces the subject with his own observations dating back to 1958 when he first began teaching, saying, “Vocational schools were seen by many as dumping grounds for students ill-equipped for academic high schools. That was snobbery. It didn’t matter to the public that thousands of young people wanted to be auto mechanics, beauticians, machinists, electricians, plumbers, carpenters.”²

This view point should not be misconstrued to suggest that qualified and capable candidates were absent from the sending pool. Unfortunately, the more talented admissions had to overcome additional obstacles. Teachers, coaches, guidance counselors, and peers exerted pressure on successful students to remain within the traditional sending system. Nonetheless, alumni rolls of vocational technical schools across the country are filled with success stories of both adolescent late bloomers and career-minded youth with extraordinary talent who flourished in the CTE system.

The number of vocational technical systems across the country grew in response to the educational demands of the post-World War II baby boom. Vocational technical instructors, armed with experience, knowledge, and expertise in their respective trades, dominated the vocational technical delivery system setting and their academic counterparts often assumed a merely ancillary role. By the 1970s, however, information, technology, and knowledge propelled a new economy which began to replace the manufacturing-driven economy. The focus of vocational technical education

²Frank McCourt, *Teacher Man* (New York: Scribner, 2005), pp. 13-14.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

was forced to change with the times, and that change was accompanied by a gradual transition in terminology from ‘vocational technical’ to ‘career and technical.’

The works and impact of 20th century management gurus heralded a new perspective on business and industry in a fast-paced global economy. They defined “knowledge workers” decades before the trend was widely accepted; advanced management philosophies which sought continuous improvement in performance of processes, products, and services; and recognized the need for discernment and judgment capabilities in all workers. The combined impact of Peter Drucker, Edward Demming, and Peter Senge, along with a myriad of continuous quality improvement (CQI) and quality assurance (QA) approaches which have made inroads among the world’s predominant businesses and industries, have made it impossible to ignore the changing role of education in the global workplace.

As testimony to the federal government’s understanding of the changing economic landscape at that time, the Carl D. Perkins Vocational and Technical Education Act was originally authorized by federal legislation in 1984 and re-authorized in 1998 and 2006. The purpose of this legislation was to provide individuals with the academic and technical skills needed to succeed in a knowledge- and skills-based economy. Unlike the language of the Smith-Hughes Act, which indicated clearly that “such education shall be of less than college grade,” the language of Perkins III stipulated support for career and technical education that prepares its students both for post-secondary education and the careers of their choice.

According to the official position of the United States Department of Education, as found on the Office of Vocational and Adult Education website, federal involvement today is designed to help all students acquire challenging academic and technical skills and be prepared for high-skill, high-wage, or high-demand occupations in the 21st century global economy.³ The current proposal for 2012 re-authorization of the Perkins Act recognizes that effective, high quality CTE programs are aligned with college- and career-readiness standards as well as the needs of employers, industry, and labor.⁴ Thus, on the federal level, the focus on CTE is on ensuring that students are well-prepared for further education, including four-year post-secondary institutions and beyond when appropriate, as well as being prepared for life-long learning and satisfying careers.

The vocational technical learning environment of today is clearly no longer the culminating educational experience that was the trade school of the manufacturing economy. The skill set

³U. S. Department of Education, Office of Vocational and Adult Education <http://www.ed.gov/print/about/offices/list/ovae/index.html> (8/27/2012).

⁴U. S. Department of Education, Office of Vocational and Adult Education, *Investing in America’s Future: A Blueprint for Transforming Career and Technical Education* (Washington, D.C., 2012) p. 2.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

required of employees in the 21st century is leaps and bounds over the old. The CTE delivery system, along with all educational delivery systems serving America's youth, have been challenged to move in a new and significantly different direction.

Where we are Today

While there are many viewpoints on how to meet the challenges it presents, there is little disagreement on what defines this new global era. All concur that the age in which we now find ourselves can best be described in terms of diversity and complexity. With a more diverse population and commerce that easily crosses national and continental divides, gainful employment today requires teaming, communication, and technological skills like never before. At a time when new information, communication, and media technologies connect people, ideas, and data across the world simultaneously, workers must function effectively in international contexts and the ability to function in cross-cultural situations has become a critical part of the 21st century skill set. With global competition, the demand for skills equivalent with menial tasks is at an all-time low. The American workforce has to become more sophisticated if it is to maintain its competitive edge and public education in America must find a way to attain that higher level of sophistication.

Andrew Sum, director of the Center for Labor Market Studies at Northeastern University, and a contributor to both the Harvard Graduate School of Education *Pathways to Prosperity Project* and the Massachusetts Department of Elementary & Secondary Education's Task Force on Integrating College and Career Readiness, notes that employment rates for the nation's teens and young adults are at post-World War II lows, and that the need has never been greater for work-based learning opportunities for young people.⁵

Harvard researchers identified the challenges of a more demanding labor market and widening skills and opportunity gaps. They noted that a focus on college readiness alone does not equip the future workforce with all the skills and abilities they will need in the workplace, and that decision making, listening skills, integrity, and creativity are among the many attributes, or "soft" skills, that are vital to career success.⁶ In order to foster an effective blend of academic and career technical preparation for the post-secondary education requirements of the majority of today's careers, the Harvard report called for a more comprehensive effort to develop a robust pathways system. They

⁵Harvard Graduate School of Education, *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*, February 2011, p. III.

⁶Harvard Graduate School of Education, p. 4

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

concluded that “if high school career-focused pathways were firmly linked to community college and four-year career majors, ... more students would be likely to stay the course.”⁷

Building on the Harvard study, the Massachusetts Task Force on Integrating College and Career Readiness brought together a team of educators, employers, and academic and labor experts to develop an action plan to better prepare the state’s students for successful careers. The Task Force, in its recently released report entitled *From Cradle to Career: Educating our Students for Lifelong Success*, noted that career development opportunities that directly link their education to their future help to keep students inspired, motivated, engaged, and persistent - traits that directly improve student performance.⁸

Implications for Career and Technical Education

Career readiness means an individual has the requisite knowledge, skills, and experiences in the academic, workplace readiness, and personal/social domains to successfully navigate to completion an economically viable career pathway in a 21st century economy.⁹ Since career readiness has long been the domain of CTE, what are the implications for CTE in this ongoing conversation about the role of education in preparing students for success in today’s global economy?

While not all students will opt to enroll in higher education directly after high school, most will ultimately conclude that some degree of college-level education is the key to a better life for themselves and their families. Public education, including CTE, must therefore guarantee that students who enlist in the armed services or pursue immediate employment are equipped with the academic preparation that will allow them to re-enter the educational setting at some later date.

Successful companies attribute a large part of their success to an endless drive for excellence, quality, and the highest standards of customer service. CTE systems need to blend the best of the private sector into successful public sector enterprises with the future workforce as their diverse customer base. Vocational technical training must focus on providing college, business, and industry with candidates who are capable of meeting today’s demands and tomorrow’s challenges. It must encourage learning activities and student research projects which include the geographical, economical, cultural, social, and other considerations of a global economy; and it must provide

⁷Harvard Graduate School of Education, p. 13.

⁸Massachusetts Department of Elementary & Secondary Education, *From Cradle to Career: Educating our Students for Lifelong Success*, June 2012, p. 9.

⁹MA DESE, p. 12.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

maximum opportunities for future advancement for all students. This includes the expectation that each student will be prepared to qualify for post-secondary education.

Setting a New Agenda

Those of us who work in CTE at the secondary level have long understood the value of using the world of work to engage and motivate students. Trying to make someone learn what he or she doesn't want to learn can be a frustrating endeavor. Unless the subject matter is actually used in real life, the student will very quickly forget what has been taught. Long-lasting learning occurs when a student is interested in the subject matter and can see the connection to his or her future life. Vocational technical teaching, which is grounded in preparation for specific careers, serves as a fulcrum between learning and real life work. It is individualized, realistic, and relevant and will appeal to a large and diverse group of high school students.

CTE recognizes that different students learn in different ways. Our students learn by both traditional and non-traditional means; through simulations, one-on-one coaching, in small groups, by imagining, and by the purposeful curiosity of tinkering. In this new mode of CTE, students are engaged and interested as never before, employing their minds and hands to learn and create in new and unlimited ways.

As technology has advanced in rapid-fire progression, vocational technical educators have watched their fields of expertise expand and become more technical and sophisticated. With the higher level of technicality have come more strict standards and credential requirements. Virtually every workplace now establishes quality standards for its employees. Nurses, HVAC technicians, cosmetologists, electricians, airline pilots, accountants, automobile mechanics, lawyers, physicians, and teachers all earn certifications and/or licenses. Some of these credentials are national and some are state-specific, but all require an established level of proficiency and an ability to communicate that proficiency effectively. Therefore, while vocational educators cannot lose sight of their focus on teaching the specific skills required for a particular career path, they must also accept the challenge to provide a more rigorous course of academic preparation which will allow their students to meet the higher standards they will encounter in the workplace.

The new definition of CTE must therefore involve integrating specialized career training and citizenship with challenging academic learning in order to provide the global community with a highly qualified and prepared workforce. A quality CTE system today will combine **specialized training** using state-of-the-art technology, **individualized academic instruction** which recognizes diverse learning styles, a **competency-based counseling** program and personal enrichment initiatives, and a wide variety of **self-actualizing and team building** extracurricular activities. When these four complementary functions are intertwined and integrated in a safe learning environment, they form a cohesive effort that can help students identify their own gifts and

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

strengths, and which will empower them to develop positive and productive thinking and work habits.

Specialized Training

In order to provide the highest caliber of specialized training and maintain its relevance to the ever changing workplace, CTE systems must establish solid partnerships with local business and industry. Schools currently are required to establish and utilize program advisory committees in order to qualify for federal Perkins funding. These committees should not function merely to meet state and federal requirements. They should be seen as ambassadors for CTE and as vibrant and energetic partners with the school in promoting public/private collaboration and cooperation. Program advisors work hand-in-hand with vocational technical teachers to constantly monitor trends in business and industry and suggest curricular modifications and enhancements. These advisors also serve as excellent resources for potential grant funding and student placement opportunities. They can suggest community service projects that will enhance students' learning experiences and can help secure corporate donations of supplies and equipment to ensure students have access to the latest technology they will encounter in the workplace.

The current plan for the re-authorization of the Perkins Act focuses on four core principles: alignment, collaboration, accountability, and innovation, aimed at ushering in a new era of rigorous, relevant, and results-driven CTE programs, whose students are challenged by the rigor and engaged by the relevance.¹⁰ This plan proposes reforms for distribution of federal funds which will set clear expectations for high-quality programming aligned with in-demand occupations in high-growth industry sectors. It strives to promote collaboration among high schools and post-secondary institutions, to foster accountability, and to create conditions that support innovation at the local level.

Like industrial workers who have been forced to develop new technical skills to adapt to the knowledge workplace, specialized training in the new CTE must be flexible in its adaptability. Quality technical programs and their competency validated skill sets should be linked and regularly cross referenced with economic prognosticators. Economic indicators need to drive curriculum upgrades and adequate fiscal resources need to be made available if CTE is to respond effectively to the constant improvement mission. We need to make sure that future employees achieve the education and skills training they need to be able to thrive in the knowledge economy and that everyone should have better and easier access to quality and affordable higher education as well as lifelong learning opportunities. The school board and the superintendent, as CEO of the educational delivery system, must acknowledge this trend and embrace practices aimed at preparing every student to qualify for higher education.

¹⁰U.S. Department of Education, p. 15.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

Individualized Academic Instruction

With the more sophisticated demands of the new economy in mind, curriculum in the vocational technical setting must be viewed as a dynamic process which promotes active, thought provoking, facilitating, and individual assessment activities to develop each student's potential as a learner. Students must be given the opportunity to acquire an understanding of the technical application of the math, science, and communications essential to their given trade area and to improve their total skills if they are to reach their individual potential in the new workplace.

Across-the-curriculum approaches to reading, writing, and mathematics have proven to be effective ways of reinforcing academic learning across classrooms and in the vocational technical laboratories. In a system-wide approach, resources to promote reading, writing, and math in all classes and training programs should be developed and shared among all academic teachers and vocational technical instructors. Academic teachers will routinely coordinate lesson plans with their vocational technical colleagues, using topics, themes, and subject matter related to students' career fields to reinforce academic concepts and ideas. For example, a math teacher will regularly use food measurements to teach math concepts to students who plan careers in the food service industry; social studies lessons on the industrial revolution are correlated with welding and manufacturing technologies instruction; and students preparing for careers in the painting and design field may be asked to write descriptions of painting techniques in English classes.

Because CTE students earn a dual credential and must integrate their learning between academic and vocational technical skill attainment, the resource of time is a particularly valuable commodity for them. CTE systems should therefore seriously consider a longer school day or school year. While Massachusetts calls for a minimum of 180 school days in each school year, the Blackstone Valley Vocational Regional School District in that state has been operating on a 193-day calendar since 1997. With more time on task and a continuous improvement plan in place, the district's students have improved their performance on MCAS, the state-mandated academic competency determination, without ceding a significant amount of time from their specialized vocational technical training.

Whether in the academic classroom or the vocational technical laboratory, teachers must be recognized as a system's most valuable asset. Acknowledging that students tend to pursue a level of achievement consistent with teachers' expectations, teachers should be encouraged to set high standards, insist that students put forth the effort required to meet the school's academic requirements, and prod students into judging themselves via performance. Active recruitment and support of teachers with intellectual curiosity, the discipline to make a difference, and the drive to follow their passions is therefore essential.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

Recent studies have confirmed that the top factors for a high-achieving school are lofty expectations for all students; clear, measurable goals; a consistent curriculum; and a staff that uses data to see where teachers and students can improve. Such schools have teachers who are willing to push students and who are armed with up-to-date textbooks and other modern resources.

Competency Based Counseling

As publicly supported institutions with a direct link to the diverse and technical workplace of the future, CTE systems must foster an atmosphere of tolerance and respect, promoting equity and an appreciation for diversity. As partners with parents/guardians in the task of helping young people navigate the often turbulent waters of adolescence, they have an opportunity to impact student lifestyle decisions and should be charged with encouraging physical and emotional well-being. Forward-looking CTE management will examine the many external influences on student achievement and seek creative and innovative ways to mitigate any of the roadblocks students face.

The Massachusetts Model for Comprehensive School Counseling Programs drives a proactive, collaborative, and comprehensive approach to raising student achievement and enhancing career development for all students¹¹, not just those in the CTE setting. At Blackstone Valley Regional Vocational Technical High School, the Mass Model was pioneered for several years and fully implemented in 2006. Since that time, the school counselor's role as employability class teacher complements his/her one-on-one counseling and guidance function and enables the counselor to take on a more proactive and career-focused role.

Newly emerging curricula for enrichment programs in the CTE setting focus on workplace readiness and allow students to develop and demonstrate personal, social, technical, and employability skills for career and life management. For example, an employability course at the ninth-grade level will encourage students to develop an awareness of their personal skills, interest, and abilities as they relate to career choices. They learn how to apply decision making skills and explore the attitudes, behaviors, and interpersonal skills needed to work with and relate to others. In subsequent courses, students participate in job shadowing experiences and career fairs to broaden their understanding of the skills necessary for employment retention and advancement in various careers. They develop an awareness of how personal and environmental conditions impact post secondary planning and how life-long learning is necessary to maximize workplace opportunities and earning potential. They also explore the skills necessary for managing cultural diversity in one's personal life and in the 21st century workplace.

¹¹ MA DESE, p.10.

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

Complementing the employability classes, technical competency enrichment courses should ensure that each CTE student has the ability to use computers, computer applications, and the Internet as tools for life-long learning as well as for time and task management.

Realizing that health and social problems can interfere with academic attendance and success and with subsequent employability, a student wellness initiative which offers a wide array of adolescent support services in a setting that is comfortable, convenient, and non-threatening to the students has proven invaluable at Blackstone Valley Regional Vocational Technical High School. In partnership with a local hospital, the system's school based health center now offers preventative health care, primary care, mental health, nutrition and fitness testing and evaluation, and health education. In addition to providing diagnosis and treatment of minor and acute medical conditions and first aid for minor injuries, the health center staff is available whenever school is in session to answer students' health related questions and concerns and to provide counseling, mental health evaluations, and other support services as needed. This has resulted in a significant enhancement to traditional school nurse services and directly correlates the CTE mission to the healthy and productive workforce the new economy demands.

Self-actualizing and Team Building

While the trade school of the 20th century offered few extracurricular opportunities for students who were focused solely on attaining trade skills, one cannot ignore the power of the arts and extracurricular activities for engaging students and broadening their horizons. Sports, student government, competitions on technical competency, and the arts are essential to the well-roundedness of the future workforce. These activities contribute significantly to the shaping of a student's perception of his or her place in society. Programs should be designed to promote life-long learning and career development, encourage the total growth of the student, and develop in him or her a responsible commitment to the principles of freedom, equality, social justice, personal worth, economic independence, and concern for the environment. Activities which encourage community service, entrepreneurship, healthy competition, employment survival skills, real world application, computer literacy, and teamwork must be promoted and sustained in the new CTE environment for their significant contribution to the development of a positive self-image and a vision of a successful future. Similarly, activities which promote leadership skills, an important trait in the new global workforce, must be seen as integral to the CTE mission. We should no longer have to justify cost-effective extracurricular activities, field trips, or even international travel by CTE students.

The Challenges Continue

Perhaps the biggest challenge facing CTE systems today is the dichotomy of the employers' preference to hire only the strongest talent and the still common feeder system perspective, as McCourt bluntly expressed, that vocational technical systems exist to extend an alternative opportunity for less talented or more troublesome students to succeed. Given the more

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

sophisticated demands of the global workplace, it is simply invalid for anyone to suggest inappropriate behavior, failing grades and poor attendance should ever be a passport to CTE enrollment. What employer would seek or accept negative traits as a member of the work place? With a whole world of potential employees to choose from, today's employers have the ability to go elsewhere to find capable and qualified workers if our schools do not provide them.

As the general public becomes more aware of the advantages and opportunities available for the talented career-minded student, serious concerns remain about the referral process which directs a youth to a career and technical education. There is a disconnect between the primary referral person in the K-8 school system and the CTE system. The most ardent counselor, seeking to find the most appropriate placement for each student, may have little or no background or expertise in the vocational technical setting or in business or industry. As a result, they continue to refer students who simply will not succeed in the new workplace unless drastic changes in work habits and communication skills take place. It is a disservice to encourage students to attend a vocational technical school to acquire skills for a dead-end job.

While local schools have historically enjoyed the convenience of transferring educational and fiscal responsibility for the most needy and/or troublesome candidate to its CTE partner, the burden of responsibility to provide cost-effective education for problem students can no longer fall simply on vocational-technical schools. Local schools need to address the general track and to find ways to educate difficult students effectively. Fortunately, many of the new high school reform models seem to be focusing on just that.

According to Microsoft founder Bill Gates, who certainly knows what employers are looking for in the high tech workplace and who has become a strong advocate for a new high school design, the basic building blocks of better high schools are the new three R's: Rigor, Relevance, and Relationships. In a speech delivered to the National Education Summit on High Schools in 2005, Gates said that "the idea behind the old (high school) design was that you could train an adequate workforce by sending only a third of your kids to college - and that the other kids either couldn't do college work or didn't need to. The idea behind the new design is that all students can do rigorous work, and - for their sake and ours - they have to."¹²

Gates describes relevance as making sure kids have courses and projects that clearly relate to their lives and their goals. He says that relationships include making sure kids have a number of adults who know them, look out for them, and push them to achieve. These have always been among the

¹²Bill Gates, Speech prepared for National Education Summit on High Schools, February 26, 2005. [Http://www.gatesfoundation.org/speeches-commentary/Pages/bill-gates-2005-national-education-summit.aspx](http://www.gatesfoundation.org/speeches-commentary/Pages/bill-gates-2005-national-education-summit.aspx)

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

distinguishing characteristics of effective CTE systems. Spending as much as half of their school days in one career area with the same vocational instructors throughout the four high school years, CTE students have typically forged strong bonds with their shop teachers in studies that relate to their career goals. Incorporating academic rigor and the more complex problem-solving and communication skills which accompany higher order thinking to this successful formula is the new challenge facing career and technical high schools of the 21st century.

Fortunately, career and technical schools in America do not have to re-invent the wheel in order to meet this challenge. *High Schools That Work*, an initiative of the Atlanta, Georgia-based Southern Regional Education Board, has been helping schools incorporate greater academic rigor since 1987. The SREB, when asked by state leaders to help high schools integrate academic and vocational studies in order to raise the achievement of students, identified ten key practices and now promotes their implementation via the *HSTW* program. First and foremost of these practices is high expectations: setting higher expectations and getting more students to meet them.

HSTW provides a framework for raising system expectations; encouraging students to complete more challenging courses; changing classroom and laboratory practices; involving parents, employers and the community; and improving student assessment.

A variety of educational studies, including one conducted by MassINC in 2005, point out the benefits of stronger relationships between teachers, kids, and parents; and many reform efforts encourage a transition to smaller, more personalized school units. Newly designed small high schools or small school units within larger schools have recently proven to be successful at improving student performance. Small learning communities, such as the individual shop model in the vocational technical setting, are promoting better relationships between students and teachers, more student interest in specific careers, and better student performance.

Given the cohesiveness that is evident in the CTE shop setting, and the way this has arguably contributed to student success, it would appear that CTE already has a head start on a very large facet of high school reform championed today. Rather than making drastic changes to those aspects of CTE which have proven effective, the real focus of CTE reform should be on finding new ways to help students attain the “soft” skills needed in today’s high tech jobs.

As vocational schools focus on career skill attainment, no skill is more important in the information age than the ability to communicate with and relate to other people. Today’s workers need to be able to exchange ideas, form relationships, understand human nature, and to master the complex ways of modern society. Incorporating these skills into the CTE curricula will require vision and willpower to replace outdated, but familiar, practices with new approaches. It will

The Changing Face of Career and Technical Education, Part II

Dr. Michael F. Fitzpatrick

necessitate turning away from comfortable paths that all too often have led to dead ends for many students; but the potential rewards are enormous.

Summary

CTE is a long standing program whose place in American education continues to evolve. As the Harvard study illustrates, today's best CTE programs do a better job of preparing many students for college and career than traditional academics-only programs and there is a growing movement to create high-quality "21st century" CTE programs.¹³ The Harvard report's listing of Models of 21st Century Career and Technical Education includes the Massachusetts statewide network of regional vocational technical high schools, as well as the *High Schools That Work* effort, the *Project Lead The Way* engineering model, the Career Academy Movement, and other CTE initiatives in California and Florida. With many new ideas and the strength of business and industry appeals behind it, the historically rich role of CTE in responding to the nation's workforce demands provides a solid base and fertile ground for the design of new and innovative approaches to the challenges of today's global economy.

The tenets of excellence which should drive all educational systems must characterize the quest of CTE institutions. An updated and more rigorous version of CTE has enormous capacity for helping our country meet the challenges of the new global economy. By helping its students achieve to their fullest potential, the new version of CTE will prove its invaluable ability to bolster the economy and strengthen our democracy for the benefit of all.

¹³Harvard Graduate School of Education, p. 25