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## **Career and Technical Education Teacher Shortage: A Successful Model for Recruitment and Retention**

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### **Abstract**

The role of Career and Technical Education (CTE) as a major source of skilled workers for the American economy and a vital component of American education is well established. Several recent studies show that when CTE programs combine rigorous academic standards and industry-based technical content, the result is higher academic achievement and better economic outcomes for an increasing number of high school students. In spite of the documented successes and achievements of CTE high schools, studies show that many high school programs are faced with serious challenges, not the least of which is the difficulty in attracting qualified CTE subject teachers. This article examined one highly successful CTE teacher recruitment effort in New York that involves the

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city department of education, the teachers union, and a public university. The article focuses on the key elements of the teacher training program as a model for effective CTE teacher recruitment and retention.

### **Background**

Career and Technical Education (CTE) has been a mainstay in the American education system for the past century. Looking forward, it is clear that the journey ahead will be very different from the one already traveled. For CTE to continue to be a relevant and major contributor to the successful lives and careers of students, many challenges must be addressed and overcome. Primary among these challenges is the need to provide highly qualified and highly competent CTE teachers who are able to prepare students to be successful in their careers and in their lives. In an effort to highlight and address this challenge, the Association for Career and Technical Education (ACTE) dedicated the January 2010 issue of its official publication, *Techniques* (Volume 85, No. 1), to the problem of CTE teacher recruitment and retention.

The purpose of this paper is to examine one highly successful long-term CTE teacher preparation effort in the New York City Public School system. We will first briefly examine CTE from a national perspective, noting recent trends in the field. Secondly, we will report on the status of CTE education within the New York City Public School system. We will then focus on the Success Via Apprenticeship Program (SVA), a unique and valuable cooperative endeavor between the New York City Department of Education, the United Federation of Teachers (UFT), and the City University of New York (CUNY). We will conclude with recommendations for the future.

### **National Trends in CTE**

From a national perspective, Kazis (2005) in “Remaking Career and Technical Education for the 21<sup>st</sup> Century” draws several broad conclusions about CTE in the United States. Kazis notes that, while shrinking, CTE remains a significant component of the U.S. high school experience and appears to help less motivated and at-risk students stay in school and graduate. He further notes that the overall rigor of technical education in high school has improved, but there is more to do and many obstacles to overcome. Kazis’s (2005) article which was supported by the Bill and Melinda Gates Foundation and the Ford Foundation refers to a consistent message that runs through seven short essays which comprise the work. The message is:

CTE at the high school level must either change or die. Change may mean shrinkage in absolute size. It will certainly mean shifts in the kind and range of programs offered students and in the expectations placed on students, faculty, and administrators. The future may be different in urban and suburban regions, where the economic bases and the educational resources available for CTE can be quite different. The future is also likely to vary with the differential ability of state and regional CTE systems to meet rising expectations for quality and performance (p. 3).

The author notes in conclusion, that the greatest influence on CTE will come from the politics of education reform in the states and nationally, as well as the kinds of pressure and support the stakeholders for CTE and other reform movements bring to bear on public opinion and on the educational establishment.

In a related article, Medrich (2005) notes that for CTE to remain valued, certain steps must be taken. The steps include combining career-focused education with a strong academic core; removing less compelling program concentrations and eliminating weak course offerings. In addition, focus must be placed on the fundamentals, such as, creating an engaging curriculum; developing instructional strategies that are appropriate to the subject matter; providing support for students less prepared for rigorous coursework; and designing quality assessments. The overall national focus centers on improving the quality of CTE by employing new and creative approaches to the content and process of career and technical education.

### **CTE Teacher Shortage**

The shortage of CTE teachers in the United States is a significant problem. Documented shortages exist in various states across the country. The state of Michigan, in a July 22, 2009 letter from Governor Jennifer Granholm, issued an exemption to retiree earnings in areas of critical shortages for 2009-2010 which includes numerous CTE position designations. In Virginia, the State Dept. of Education has designated Career and Technical Education a critical teacher shortage area since 2003. Other states that have identified CTE as a critical teacher shortage area include South Dakota, Iowa, and New York. Pytel, (2008) in the article "Shortage of Vocational Workers" notes the coming shortage of skilled vocational workers and comments on efforts by Des Moines (Iowa) Area Community College to address this need. On the website "Technology Education in Connecticut" (Kane, 2009) reports that the CTE teacher shortage undermines career and technical education and could potentially impact economic growth.

In the policy brief, “Teacher Shortage Undermines CTE” (Connely, 2009) notes that there has been an increase of almost six million students in CTE courses in just seven years, yet many existing teacher education programs have been eliminated. The number of CTE teacher education programs fell from 432 to 385 (from 1990 to 2000)—a decrease of 11%. Also, there is a growing number of teacher retirements affecting the supply of CTE teachers. In 2009, the National Commission on Teaching and America’s Future estimated that “during the next four years, we could lose a third of our most accomplished educators to retirement.” Several states, including Oregon, Alabama, New York, and California, to name but a few, are already engaged in unique and creative ways to address this critical shortage. Kiker and Emeagwali (2010) profiled programs designed to address the problem in several states including Kentucky, Missouri, Nebraska, North Dakota, Oklahoma, South Carolina, Texas, Utah, Washington, and Wyoming. Reese (2010) reviewed the different pathways that states have used to meet their needs for qualified CTE teachers. Reese noted that both traditional CTE teacher preparation programs and alternative programs that recruit industry career changers can prepare future teachers to the highest quality by employing experienced teachers as mentors and models of excellence.

New York State has been active in addressing the CTE teacher shortage in a variety of ways since the mid-1980s. Currently, there are three pathways to obtaining CTE teacher certification in the State of New York. The first pathway requires successful completion of an approved CTE teacher preparation program. There are only three such approved programs in New York State public universities, namely, New York City College of Technology of the City University of New York in Brooklyn; the State University of New York at Oswego; and Buffalo State College of the State University of

New York in Buffalo. The second pathway which is an alternative route to certification is known as Transitional A for career changers. The Transitional A certificate authorizes a school district to hire an individual with at least four years of experience in the trade to begin teaching while completing the requirements for the initial teaching certificate. The initial certificate requirements including a few college courses, a certification test, and mentoring all of which must be completed within three years. The third pathway to CTE teacher certification is through Individual Evaluation. In this pathway, a prospective CTE teacher who meets the minimum certification requirements including trade experience, college course work, and the certification test, submits his or her credentials to the State Education Department for evaluation and certification. In addition to the pathways already mentioned, individuals may also apply and receive New York State certification as CTE teachers if they are from a U.S state that has Interstate Reciprocity with New York, have non-U.S. credentials; or possess the National Board Certification.

#### **New York City's CTE Teacher Recruitment and Retention Model: The SVA Program**

For over two decades, New York City has been successful with recruiting and retaining CTE teachers through a unique program known as the Success Via Apprenticeship (SVA) Program. The SVA program, originally called the Substitute Vocational Assistant Program, was established in 1984 as a collaborative project of the New York City Department of Education, the United Federation of Teachers (UFT) which is the teachers' union, and the City University of New York (CUNY). The program was designed to prepare highly motivated graduates of CTE high schools to become CTE teachers. It is a comprehensive five and one half year

experience that includes three components, namely, a salaried teaching internship, college level academic study, and relevant work experience in industry. The program specifically seeks out candidates from minority populations, including young women, who are pursuing careers in non-traditional trade and industrial occupations such as electrical installation, automotive maintenance, and heating, ventilation, and air conditioning (HVAC) maintenance.

### **Participant Eligibility and Selection**

Prospective participants of the SVA program must be recent graduates of a New York City CTE or comprehensive high school. An applicant must be recommended and nominated by his or her trade teacher and selected by a selection committee of the school headed by the assistant principal for CTE. Priority is given to applicants who come from minority groups in terms of race, ethnicity, or gender (males or females pursuing non-traditional careers). Each applicant must have an outstanding academic record and be eligible for admission to the City University of New York (CUNY) either by virtue of Regents test scores, Scholastic Aptitude Test (SAT) scores, or passing CUNY's basic skills tests of reading, writing, and mathematics.

At the beginning of each recruitment cycle which is usually in early spring, application forms are sent to CTE schools soliciting applications especially in those subject areas of current or foreseeable teacher shortage. Selection of applicants in each high school is done by a committee including trade teachers, building administrators, and representatives of the teachers' union. Selected applicants are required to apply to CUNY and pass the CUNY basic skills tests in reading, writing, and mathematics unless they have received satisfactory scores in the Regents examinations or the



SAT. Applicants who meet testing requirements are scheduled for an interview by SVA program administrators. During the interview, an important eligibility criterion is that the applicant must demonstrate interest in becoming a teacher of his or her CTE trade subject.

### **Program Components**

The SVA program is composed of a Teaching Internship, Industrial Work Experience, and Post-Secondary Academic Study. In the teaching internship component of the program, participants spend five months in a CTE high school during each year of program enrollment. While in the school, the SVA is assigned to a mentor teacher under whom the intern learns about unit and lesson planning, lesson presentation, classroom management, and school dynamics. Right from the first year, the intern is given ample opportunity to plan and teach lessons under the guidance and supervision of the mentor. Each intern is required to teach for one full semester under supervision during the third or fourth year to fulfill the student teaching requirement for State certification.

Career and technical education subject teachers seeking the initial teaching certificate in New York State must have a minimum of four years of full-time work experience. In order to meet this requirement through the work experience component of the SVA, participants are placed with employers in business and industry in work environments that match each participant's career or trade area. Over the years, program administrators have developed a network of employers in business, industry, and government agencies as job sites for placement of participants. These include automotive service shops, electrical contractors, electronics and computer service companies, hospitals, and museums, among many others. Each participant completes seven months of work experience in his or her trade during each year of program. The work experience

is supervised by on-the job trainers and closely monitored by a program administrator who makes regular visits to the job site to evaluate the participants' progress.

In the post-secondary academic study also known as the college component; participants are enrolled in teacher education courses at New York City College of Technology. Each participant is required to complete 44 credits of coursework during the five and one half years in the program (a total of 62 credits is required for State certification). The curriculum consists of courses in liberal arts and sciences, professional courses in career and technical education, and student teaching.

### **Program Uniqueness**

Program administrator involvement and monthly meetings are among the unique aspects of the program. Program administrators handle the recruitment, interviews, placement, and supervision of participants in school and job sites. They conduct regular school site and job site visits and evaluations of all participants. In addition, program partners, administrators and participants meet during mandatory monthly meetings. Administrators deliver reports on various components of the program including school sites, work sites, etc. The college representative also reports on general college and academic matters affecting participants. At each meeting, a selected group of participants make presentations on topics of interest to them. The required dress code for all participants is business attire.

### **Elements of Program Success**

The SVA program has been very successful in recruiting, preparing, and retaining young CTE teachers in the

New York City public high schools. This success is attributable to four key factors, namely, compensation, contractual commitment, administrator involvement, and high performance expectations. The high schools from which participants graduate play a crucial role in identifying students who have the interest and potential to succeed as CTE educators. By working with the schools, SVA program administrators not only know subject areas where there are potential shortages, they are also able to project need and identify potential replacements. While enrolled in the program, participants are paid 90% of the contractual salary rate for a starting teacher (currently \$45, 000 per year). The salary rate is very competitive and, in some cases, far exceeds what a recent college graduate earns in certain jobs and, certainly, the annual salary of a high school graduate. As employees of New York City Department of Education, program participants are also eligible for many of the benefits that a certified teacher is entitled to under the teachers' union contract, including pension, health, dental, and optical insurance, as well as annual leave benefits. Successful program completion also means a higher salary step at initial full-time employment as a certified teacher.

The SVA program pays participants' college tuition and fees for course work leading to the New York State initial teaching certificate. Many participants take advantage of this educational opportunity and complete the Bachelor of Science in Education (B.S. Ed.) degree within the five years of participating in the SVA program.

In return for all the benefits of participating in the SVA program, each participant is required to sign a letter of commitment to work for five years as a CTE teacher in New York City public schools. If a participant who successfully completes fails to meet the contractual obligation to work in New York City, the Department of Education has the recourse

to seek reimbursement of all tuition and fees paid on behalf of the participant.

The SVA program has very high standards of performance and conduct in all three components. Participants must receive excellent evaluations by school site mentors, college supervisors, and work site supervisors to maintain their status in and successfully complete the program. In the college component, for example, participants are held to the same academic standards as other degree-seeking students of the teacher preparation program. They must maintain a minimum grade point average of 2.50 in college courses or risk being dismissed from the program. Participants who receive poor evaluations in any of the three components of the program are brought before a personnel committee which handles all disciplinary problems and is comprised of program administrators and representatives of the teachers' union. If a participant is found to be not meeting program standards of performance or conduct, he or she is placed on probation and given an opportunity to improve within one academic semester. If there is no improvement after one semester, the participant is dismissed from the program.

Regarding evaluation of the overall program, the most recent data indicates that the program has been highly successful. In the last five years, 36 SVA Interns have graduated from the program. Thirty-four (94.4%) were offered and accepted regular teaching positions. Of the 34 that accepted teaching positions, 33 (94%) are currently teaching.

### **SVA Program Limitations**

Although there are many obvious benefits to the program, some limitations do exist. The most significant limitation to the program's operation is cost. Considered as a whole, the overall salary and associated employee benefits cost

to the program are substantial. Related administrative costs are also incurred on an annual basis. The other primary limitation of the program involves order of magnitude. The number of program completers is relatively small (due to cost constraints) which means that the need for certified CTE teachers in the overall New York public school system is met in a small, incremental manner.

### **Future Directions**

Successful efforts like the SVA Program can have a major positive impact on the current and future recruitment and retention of qualified CTE teachers. In the future, cooperative efforts between industry and education can yield positive results while at the same time address the cost issues associated with programs such as these. There can be creative approaches to encourage students to pursue careers in teaching CTE subjects. One suggestion could be to attract students with associate degrees in technical areas by offering tuition assistance for the education courses required for certification. A concerted effort could be organized on a state by state basis to actively recruit students pursuing technical associate degrees and provide full or partial tuition assistance support as they pursue their teaching certification. Also, much can be done in the way of simplifying the bureaucracy surrounding the CTE certification process. There are untapped pools of technical talent in industry and the military. If the process to certification were streamlined and made more user friendly, there could be a significant increase in talented and productive CTE teachers.

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