In order to remain competitive, a new economic system requires employees to be better educated, be more creative, work in teams, solve problems, make decisions, and improve and upgrade skills and education. As technology advances and companies push employees to assume more responsibility, the traditional vocational system will be in the spotlight. It will be replaced by a system responsive to changing work force and workplace needs. One way to help build a more competitive work force is to strengthen the school-to-work connection. A better system for preparing noncollege-bound youth to enter the work force is necessary for a flexible system. There are several options for students in high schools and two-year colleges for combining school and work. The first is expanding apprenticeship programs in some form. Efforts to create part-time apprenticeships for high school students have been successful. Work-based learning combines proficiency-based classroom instruction and workplace experience for secondary and postsecondary students. The second approach to strengthening the transition is Tech Prep, which fosters lifelong learning by combining academic and vocational courses. The new Perkins Act provides an education program leading to a 2-year associate degree or certificate, which offers links between secondary schools and postsecondary institutions. The third approach for using work as part of the learning experience is through the use of school-based enterprises (SBE). SBEs are school-sponsored activities that engage students in providing services or producing goods that improve young people's potential. Business partnerships play an active part of the reform of the educational system to develop young people's potential. Also necessary are the establishment of new relationships between secondary and postsecondary educators and between academic and vocational educators. (NLA)
Thank you for the kind introduction. I appreciate the opportunity to speak with you this morning and I would like to extend greetings from Secretary Cavazos.

Almost one year ago to date, I stood before you as a newly confirmed Assistant Secretary. The first speech I gave at the AVA was to your group. To be honest, at times I felt a little overwhelmed by the challenges and responsibilities I would soon face. Well today, twelve months later, the responsibilities in vocational-technical education are no less challenging, but what a year it’s been.

Since last year, we have seen profound changes in the world around us. Some of them are dramatic: a year ago the first cracks in the Berlin Wall were beginning to form -- today the Wall no longer exists; a year ago, many people probably could not locate Kuwait on a map -- today it occupies our daily thoughts and conversations; and one year ago, for you locals in the audience, few would have imagined the Cincinnati Reds would be in the World Series -- but today they are the overwhelming World Champions.

Other changes, while less dramatic or less visible, are no less important. I believe the
changes we are seeing in vocational-technical education today are re-shaping long-held ideas and beliefs about the role of education in our country, and 1990 will mark a turning point in the history of vocational-technical education in the U.S.

Sometimes these changes are visible -- the passage and implementation of the Carl Perkins Act, for example, which I'll talk about in a few minutes. But other changes are less obvious and involve changing attitudes and perceptions. It is this kind of change that in the long run will have the greatest impact on what we do and how others perceive what we do.

Today, vocational-technical education, after many years of waiting patiently backstage, is moving into the spotlight as one of the major players in the development of a competitive, productive, ever-changing, and dynamic work force. If interest in an issue is indicative of its importance, then vocational-technical education certainly ranks near the top. This year we've seen reports on work force training and education from public and private groups, businesses, think tanks, research institutions, universities, and international organizations. What is important -- beyond the diagnosis of problems, prescriptions for solutions, and recommendations for strategies that these reports offer -- is the universal recognition of the role that education will play in our continued economic success.

This idea is not particularly unique or innovative, but it does represent a significant
turning away from some long-held beliefs. For many years, indeed for generations, to remain competitive we simply needed to continue to churn out workers who could easily be plugged into a mass production system. This system devalued education, imagination, intuition and inspiration. This system, which has become outdated, is being replaced by a new system that requires employees to be better educated, to be more creative, to be able to work in teams, solve problems and make decisions, and most importantly a system that requires workers continually to improve and upgrade their skills and education. As technology advances and companies push employees to assume more responsibility, the traditional vocational system will be replaced by vocational-technical education system that is responsive to changing work force and workplace needs.

Our Secretary of Energy Admiral Watkins uses the analogy of a ship to illustrate the change in our economy. At the end of World War Two, a naval cruiser had 17,000 men on it. The average education level required to run that ship was about eighth grade. Today a cruiser has about 700 men and women on it, and the average education level is about two years beyond high school. Today, to keep our economy sailing we'll need men and women whose education and training surpasses that of their parents and is superior to those in countries with which we compete.

One of the ways to help build a more competitive work force is to strengthen the school-to-work connection. Vocational-technical education has long been concerned
with this connection and others are beginning to recognize its importance.

In May of 1990 the Department of Education, with the Department of Labor, sponsored the first National School-to-Work Conference. This conference, "The Quality Connection: Linking Education and Work", brought together corporate CEO's, human resource, managers, Federal and State officials, school superintendents, educators, training experts and representatives of organized labor to discuss effective ways of strengthening the school-to-work transition for our students.

This conference was significant in that its emphasis was on how the education system could be changed, not just on how programs and projects could be changed. Many people have pointed out that it is likely that somewhere in the United States someone has already found an answer to virtually every challenge we face in education. You people gathered here today are a testament to that fact. What we need to develop however, is a better system for preparing non-college bound youth to enter the work force and what is important for the system is flexibility.

By the Year 2000, according to the Commission on the Skills of the American Workforce, more than 70% of the jobs in the U.S. will not require a college education, yet typical high schools continue to concentrate on getting most students ready for college. Continued neglect of those who end formal education with high school is likely to be disastrous. The inescapable conclusion of the 1990 School-to-Work
Conference was that as a nation we simply must address this issue.

This morning I'd like to spend a few minutes discussing some of the options for students in high schools and two-year colleges for combining school and work.

Many discussions of education and the economy nowadays make some reference to the desirability for expanding apprenticeship programs in some form. In fact, apprenticeship, as you know, is mentioned on numerous occasions in the new Perkins Act. Often during these discussions the German system of apprenticeship is cited as a successful model. Certainly this system is impressive. In 1989, 1.7 million young Germans (about 70% of the 16-19 age group) were apprenticing with approximately half a million employers to earn formal certification in 380 occupations.

Our system of apprenticeship here in the U.S. is far less widespread, and almost three quarters of all apprentices are preparing to be skilled craftworkers either in the unionized construction industry or in large scale manufacturing. Studies have shown, however, that efforts to create part-time apprenticeships for high school students have generally been successful. Under a program in which high school graduates became full time apprentices, completing their related training in a community college or area vocational school, evaluations found that students involved in the program were more likely to continue jobs related to their training than those students enrolled in traditional vocational courses.
Work-based learning is also now taking place within vocational and technical education. For example, the Indiana Commission on Vocational-Technical Education is sponsoring demonstrations of programs that combine classroom instruction and workplace experience for secondary and postsecondary students. The curriculum in these programs must be proficiency-based using statewide standards for major occupational areas developed by a new Vocational Technical Proficiency Panel.

Apprenticeship programs are an effective way to improve the preparation of young people for a more learning-intensive environment, but they must be balanced with the strong tradition of worker mobility we have in the United States.

Another approach to strengthening the school-to-work transition, and an exciting new initiative in vocational-technical education, is Tech Prep. The new Perkins Act authorizes a program to provide grants to consortia of LEA's and postsecondary institutions for the development and operation of four-year programs designed to provide a education program leading to a two-year associate degree or a two-year certificate. Programs are designed to offer strong comprehensive links between secondary schools and postsecondary educational institutions.

Tech Prep programs are designed to combine academic and vocational courses that have traditionally been kept apart. Not only does tech-prep foster a lifetime of learning, it also lays the ground work for advanced education such as an associate
degree or professional certificate or a four-year baccalaureate degree. The rationale is to prepare students for employment after high school or postsecondary education.

The Tech Prep idea is one that is growing -- as of June 1990 there were at least 122 Tech-Prep programs that we know of operating in 33 States. Already three States have legislative mandates of their own and six others are considering them.

A relatively new idea, tech-prep is proving to be successful. Other models which have had success for a number of years. One of these is cooperative education. Co-op education usually involves a student's classroom instructor arranging a job placement and writing a training plan detailing what that student is expected to learn on the job. The student's job supervisor evaluates performance in terms of training objectives, and this evaluation becomes part of the grade. Co-op education involves shared responsibility by both instructors and job-supervisors.

Close to a million students each year enroll for co-op in high schools and two-year colleges. Most are in high schools, but a 1987 survey found co-op programs in 437 two-year colleges and 549 four-year colleges in the United States. In general, co-op offers potential advantages to students, employers, and schools. Students gain access to meaningful jobs where they can acquire skills and knowledge that are relevant to their possible careers. Employers gain access to a relatively reliable and well motivated group of students, whose performance on the job will also be
monitored by the school. For the school, co-op offers a real world work setting where students can see the relevance of what they are studying.

Another option for using work as part of the learning experience is through the use of school-based enterprises. SBE's are school sponsored activities that engage students in providing services or producing goods for people other than the students themselves. SBE's are a common feature in vocational education both at the secondary and postsecondary levels.

SBE's have generally been established to teach entrepreneurship, to provide application of skills and knowledge taught in school, to enhance students' social/personal development, or to stimulate economic development in the community.

These are just a few of the ways vocational-technical education can help to strengthen the connection between school and work. Cutting across all these efforts though is the role business is playing in the effort to improve the quality of our work force. Business has been very much a part of the push toward reform of our educational system. Many reports have complained about the problems of this system and the need for change, business, on the other hand, has taken an active role and has provided the impetus to move reform forward. And this reform is occurring. Today, there are more than 140,000 partnerships by business and community organizations in our schools working to develop the full potential of our young people. These
partnerships improve the school-to-work transition by helping schools respond to changes in the labor market and by ensuring that students get the skills they need for available jobs.

Business/education partnerships generally fall into three categories: efforts targeted directly to students, such as "Careers in the Classroom," in St. Louis, Missouri; programs targeted to individual schools, often called "adopt a school"; and efforts targeted at an entire school district, such as the Boston Compact. It is not enough, however, for companies merely to adopt a school or underwrite college scholarships, they must be willing to join with educators to tackle the really tough issues. Business leaders must be willing to speak out about how the system can be reformed.

Strengthening the school-to-work transition will not only depend on partnerships between educators and employers but will require new relationships between secondary and post-secondary educators, and between academic and vocational educators.

We now recognize that programs to prepare young people for work can be very effective, but they require a commitment by everyone involved. Students must be able to use worksites as locations for learning. Employers must make a sufficient number of jobs available as training positions and must make allowances for trainees' lower productivity and increased demands on supervisors. Schools must provide qualified
staff who can create a closely integrated combination of classroom instruction and supervised work experience.

There are many ways we can all help to strengthen the connection between school and work. I spoke earlier about the challenges we face in vocational-technical education. Well, along with those challenges we all face great opportunity. We in vocational-technical education can help move education reform forward. By providing high quality programs closely coordinated with the needs of public and private sector employers, vocational-technical education stands ready to become a full partner in our efforts to expand educational and employment opportunities for all our citizens.

The President has said that building a world-class work force must be a national priority. Let us accept this responsibility with the full realization that this is an opportunity for us all to make a contribution to the continued success and prosperity of the country as we move toward the 21st Century.