Commission on Innovation and Excellence in Education

Career and Technical Education

[Consultants' Proposal: 7/9/18]

Summary

Maryland can lay claim to having one of the best systems for career and technical education in the United States. Its CTE system has dedicated leaders and instructors and one can find high schools and community colleges that provide engaging programs and lead to rewarding careers.

But the numbers of students who leave our schools with a credential – a credential that employers value enough to pay higher wages to young people who have it – are much too small. In Maryland, as in much of the United States, despite the best efforts of dedicated educators and companies that want to help, career and technical education is widely viewed as the place students go who are struggling academically. These programs are often viewed as successful if they keep students who might otherwise have dropped out in school. The majority of high school students appear to us to leave high school without either a solid work credential to launch them on a career or the academic standing to have a decent chance of going to college and succeeding there.

That is unacceptable. Maryland's economy cannot long remain competitive if half of its workforce is uncompetitive in a labor market that is suffering from surpluses of people with low skills and severe shortages of people with high skills. That is the situation today in our state – and most other states.

The future of the Maryland economy and of many of our citizens depends on a massive upgrading of the skills of the workforce, not so much among those who earn professional degrees in university as among everyone else, from cosmeticians to medical technicians using advanced medical technology, specialty welders to farmers with driverless tractors, from people who build and maintain factory automation systems employing advanced robotics technologies to automotive repair and maintenance technicians who are now dealing with computers on wheels.

A world-class career and technical education system for Maryland: What it will look like

No economy can long survive employing only university-educated professionals. We envision a Maryland economy in which, by 2030, close to half of our high school and college students are in apprentice-like programs that involve much work-based learning that's supported by classwork tied to what is being learned in the work place. Students will constantly apply in the workplace what they are learning in class, using state-of-the-art equipment under the supervision of expert practitioners. These programs will lead to occupational credentials that are gateways to very rewarding careers that do not necessarily require professional degrees. Because the standards for these credentials will be defined by employers, students will know that at the end of their program there is a good job leading to a rewarding career. Some of these credentials will qualify students to take the first step in a good career right out of high school, while others will choose careers in which the first job comes after a year or two or more of college. These programs will include registered apprenticeships as well as many other opportunities for advanced technical training. The distinction will be much clearer than it is now between what students have to do to make the transition between programs that offer beginning skills in high-skill fields and programs that offer more advanced skills in those (and other) fields. For many careers, students will be able to start that progression earlier and complete it faster and at much less expense to them and their families than they can now.

There will be no dead ends in this system. Students will be able to start out getting enough knowledge to begin at the bottom of the ladder, go to work and then go back to get a more advanced credential if they want to. They will be able to systematically explore a variety of career options, go down one path and then shift to another without going back to square one. They will be able to start out in a CTE direction and then shift to a university path or, if they wish, start out on a university-bound path and pick up a CTE credential, too. There will be smooth transitions among high school CTE programs, community college programs and university-based technical programs. Far from being a refuge for the academically challenged, the CTE route will be chosen by many academically gifted students because they want a hands-on approach to their education and can see that CTE is as good a route to the board room or corner office as the university.

To produce those outcomes for almost half of Maryland's young people will require a *whole system* that is carefully designed for this purpose. The purpose of this proposal on CTE is to describe the essential elements of such a system. Its crucial foundation is the Commission's bold proposal to get Maryland high school students to a sound college-and-career-ready standard by the end of grade 10. At that point, a student will be able to pursue a credential that an employer will be willing to pay for. When that system is in place, no one will be able to say that CTE is for students who are struggling academically. It is where you go for a compelling, absorbing and exciting form of

education and training that leads to limitless possibilities. It is where you go to master complex technical skills in an economy that provides rich rewards for people with such skills but also where you go for an education broad and deep enough to enable you to turn your career around on a dime, as well as an education for citizenship.

This is no dream. There are countries that have systems that are doing exactly this right now. There is no reason why Maryland cannot do it, too.

There is much to build on. Officials at MSDE; the Governor's Workforce Development Board; the Department of Labor, Licensing and Regulation; the Maryland Higher Education Commission; the Community College System; the Maryland Economic Development Commission; the P-20 Council; and many local leaders, employers, trade unions, and professional educators have all been working on pieces of this problem. The highlights of our proposed plan follow.

Plan Highlights

1. **A new Career and Technical Education Subcabinet will be created** to drive the process of building a world-class career and technical education system for Maryland. The executives of relevant state agencies – named above – would be members, charged with creating a framework for the new system and then bringing that system into being. The Subcabinet will have its dedicated staff, not simply staff assigned to it from other agencies, including an Executive Director.

   The Subcabinet will be tasked with building on the good work already done to create a system focused on developing the talent needed for staffing the high-tech industries on which Maryland's future depends, from health care and agriculture to cybersecurity and precision manufacturing. It will take the lead in developing the framework for the state's CTE system, mobilizing the business community to become a central player in developing opportunities for apprenticeship and work-based learning, approving CTE programs and standards, bringing the schools and colleges and universities together to align their offerings, assuring that Maryland's entire CTE system is fully aligned with the state's priorities for economic and workforce development and benchmarking that system against the best CTE systems in the world, to make sure that Maryland's workforce is—and can remain—among the most competitive in the world.

2. **There will also be a Skills Standards Board comprised primarily of employers and labor leaders, charged with setting the standards for a greatly strengthened statewide system of work-based learning and apprenticeship** that will form the backbone of the new system. Employers and labor will be asked to play the key role in defining Maryland's system of occupational standards. They will also take the lead in creating a robust array of

opportunities for students to earn those occupational credentials in workplace settings provided by employers all over the state and creating a quality-assurance system to ensure that those employers are offering the experiences the students need to earn the credentials they seek. Finally, they will be asked to play a key role in establishing the standards and criteria by which candidates will be evaluated for credentials. When the CTE system is fully operational, all CTE programs leading to credentials needed for rewarding mid-level skill jobs will include major work-based learning/apprenticeship components, offered either on the students' high school or community college campus, or, preferably, at the work site of a private or public sector employer or provider of registered and/or youth apprenticeships. To ensure coordination with the CTE Subcabinet, the Chair of the Skill Standards Board will serve as a member of the subcabinet, and the Chair of the Subcabinet will serve on the Skill Standards Board.

3. **The mission of the state's American Job Centers will be expanded** to enable them to open their doors to high school and community college students to provide information on jobs and careers and make connections for young people to employers offering opportunities for work-based learning, youth and registered apprenticeships, internships and job shadowing.

4. **The system of high schools specializing in CTE will be expanded and strengthened**. In order to earn an occupational credential, a student will have to spend some of his or her time in the workplace and some of his or her time in school. Some schools will be in Maryland's major population centers, others organized as collaborations of rural and semi-rural communities. These schools and the CTE staff of Maryland's community colleges and other higher education institutions will be asked to work together to build career development course sequences that begin in high school and continue seamlessly through community college occupational programs (and sometimes the programs of four-year institutions). The sequences will be designed so that students can earn credentials at various points along the career sequence, get a job with that credential and then, if they wish, go on later to acquire a more advanced credential in the same sequence. Students in the specialized CTE high schools will be able to take community college certificate programs in their high schools, so they can do college-level CTE work while remaining involved in high school courses and extracurricular activities while they earn both a high school diploma and a certificate leading toward a good job. These programs will include both youth and registered apprenticeship programs of the kinds already offered under Maryland law.

5. **The whole system will be informed by a close relationship between the providers of CTE and the state's economic development, workforce development and labor agencies.** While the CTE system will continue to

prepare future carpenters, auto mechanics and cosmetologists, it will also prepare young people with the complex skills needed for success in an economy permeated by artificial intelligence, robotics, neural networks and machine learning. But technological mastery will be just part of a student's career and technical education. The curriculum will also emphasize ethics, the qualities needed to collaborate with others in teams but also to work independently on finding solutions for real problems, as well as the habits of mind needed to learn new things quickly and well. Not least, the CTE programs will be designed to provide the insights and skills needed to play an active role as an informed citizen, engage with our cultural world and be a fully contributing member of the society.

6. **The funding of CTE in the state – from federal Perkins funds, state funds and local sources – will be modified**. Specialized CTE programs will be funded at levels per student that recognize that they require costlier facilities, equipment and – sometimes – faculty. In addition, special grant programs (currently established in law as CTE Innovation Grants) will make funds available to teams of schools, community colleges, employers and others, often building on good work already going on, to develop occupational standards, curriculum, and new forms of assessment that will be needed as key parts of the infrastructure of the new system. The aim, as much as possible, is to grow the new system from the bottom up, building on the points of excellence already in our midst, guided by the framework provided by the CTE Subcabinet and meeting the standards established by the Skills Standards Board.